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MONTHLY



FLOWERS, FRUITS, VEGETABLES

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Geranium, George Sand.

VICK'S ILLUSTRATED MAGAZINE

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WATER LILIES IN TANKS AND PONDS.

THE construction of water lily tanks is not attended by any mystery. It requires labor and capital, and this largely proportioned by the desires of the owner. A tank may be made plain and cheap, or very ornamental, and the location, outline and dimensions of the tank are matters to be regulated by each individual, and we offer only a few general suggestions:

Give it a sunny position, and take in consideration water supply and drainage. Water from the roof of a building may be utilized for this purpose in the absence of water works. As to outlines, circles, ovals and parallelograms are generally used for small

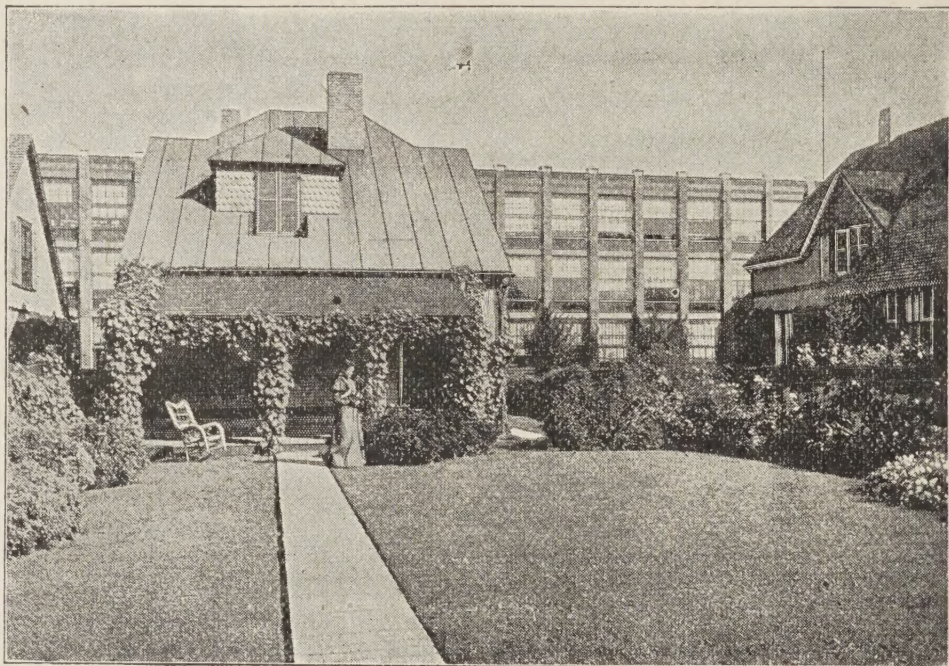
tanks, and 6 x 12, 12 x 20, or 20 x 60 feet are convenient dimensions. The proper depth of a lily tank is from one and one-half feet for smaller nymphæas to three and one-half to four feet for the larger varieties. Sometimes tanks are made deep enough for swimming pools and the lilies planted in boxes elevated to within two feet of the surface of the water. The walls and bottoms may be made of a simple heavy coat of sand and cement, where the soil is of a firm, clayey nature; this will make a temporary job, or even permanent, if kept from freezing. But when a tank is to withstand the winters of the north the walls and bottom should be twelve inches thick,

and made of brick, stone or concrete. During the course of construction, overflow, drainage and supply pipes should be put in.

Lilies may be either planted in boxes of soil, 3x3x1 feet, sunk in water, or in the same way as they are planted in ponds, after heavy, rich soil, one foot thick, has been put in the tank. Heating is best done by a circuit of pipes, after the manner a greenhouse is heated; but all water lilies may be flowered in tanks without artificial heat, where the plants have had a good start in the greenhouse. Protection over winter may be done

to give the pond a three- or four-inch coat of stiff clay mud to make it hold water; but where the land is waxy or heavy, a good pounding with mauls or trampling by stock will make the bottom sufficiently tight.

Here is a suggestive way to make an artistic lily pond or tank: Let an irregular channel, say twenty feet wide, encircle a plot of ground of any dimensions, say 100 feet in diameter, making an island. The soil from the channel may be dumped on the island, making it somewhat higher than the surrounding territory. The island may be planted with orna-



A BACK YARD IN SOUTH PARK
OPPOSITE N. C. R. FACTORY

with glass, either as a greenhouse or cold-frame, or by boards, matting or litter. However, if the walls are built heavy and the water drained off, no protection is necessary.

MAKING A LILY POND.

Naturally the lowest part of the grounds is the place for the lily pond. This will catch the superficial drainage of the surrounding upland, which space should be sufficiently extensive to maintain the pond. This does not apply to cases where springs, streams or other such sources are used to supply the pond.

A pond is made by the free use of plough and scraper, the soil being used for grading, or otherwise disposed of. It should have a depth of not less than three feet. Where the soil is light and porous, it may be necessary

mentals, the channel bridged, and a diversity of changes introduced. The illustration on the previous page is a section of a pond of this style.

GEORGE B. MOULDER.

* * *

A NEW WAY TO START BEGONIAS.

EARLY in January, while the thermometer outside stood at zero, one of my Rex begonias was slightly frosted; the stems were limp, falling over the pot, but the leaves appeared uninjured. The leaves were cut and placed in a vase of water, merely as a table ornament. Soon they were as fresh and healthy as if never injured. Much to my surprise they continued to improve, and in a month commenced to throw out little roots. Every leaf rooted, the smallest ones first. I then planted them in earth and they are all growing nicely.

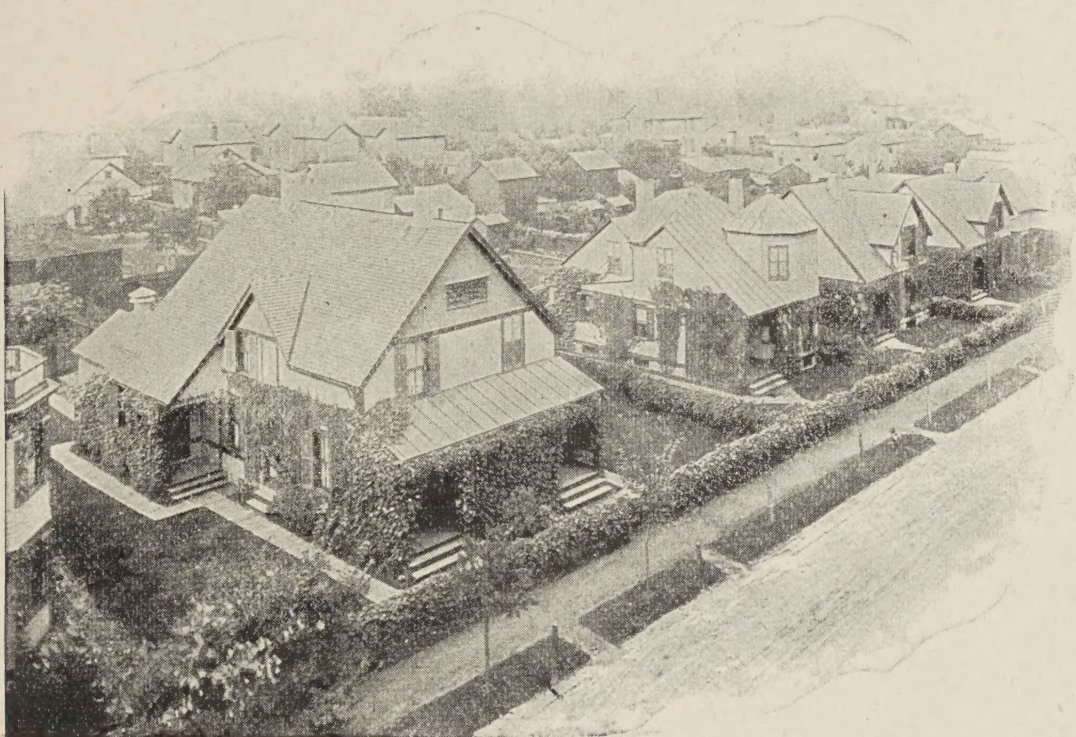
S.

VILLAGE IMPROVEMENT—HOME BEAUTIFYING.

HOW to interest an entire neighborhood in clearing away rubbish and beautifying the yards and streets is usually a difficult problem in any community. That it can be solved and almost universal enthusiasm aroused has been proved in a number of cases. What is needed is a simple, practical plan and an intelligent moving power behind it.

It was left for a few business men and a factory community to give the first and most complete example of what can be done. A few years ago the officers of the National Cash Register Company, whose buildings had been

regarding the best planting of the factory grounds and lawns, the streets and yards of the neighborhood. The suggestions were at once put into practice about the factory and were recommended to the residents of the community. The simple A-B-C principles of gardening were taught in the various schools and clubs connected with the neighborhood, until every child knew that preserving lawn centers, planting in masses and avoiding straight lines were the essentials of beauty in all grounds whether large or small. This instruction was given largely by the use of the stereopticon, lantern slides being made of beautiful grounds



K STREET, OPPOSITE N. C. R. FACTORY

recently erected in a not very attractive suburb of Dayton, Ohio, determined to try to revolutionize the appearance of that locality.

This suburb was one such as is frequently seen in a manufacturing city, with unpaved streets and only fairly kept yards and sidewalks. There were no blocks of tenements, but in almost every case the house had its own yard.

The purpose to be attained was to clean up that entire portion of the city and then to beautify the little homes and yards. In accomplishing this the officers of the Company set a good example by first cleaning up their own factory grounds and sowing the lawns with grass seed. Mr. J. C. Olmsted, of World's Fair fame, was invited to spend a few days at the factory and to give suggestions

at various places and of beautiful landscapes from Nature. In the kindergarten, public schools, Sunday schools, boys' and girls' clubs, mothers' guilds, and similar organizations which obtain encouragement in and about the factory, these things were taught and the interest of the members aroused. The South Park Improvement Association was then organized, consisting of the residents of the suburb. The officers were chosen from among their own number, and the purpose of the Association definitely stated to be to encourage the beautifying of homes, the cleaning of streets and alleys, and the general improvement of the community. This organization holds monthly meetings and is frequently addressed by experts on questions of planting and gardening. Instruction is given, not only

in floriculture, but also in vegetable gardening and similar subjects.

One of the difficulties at first was to know how to get rid of nuisances here and there throughout the city. Finally some one suggested that pictures be taken of these places and that they be shown on the screen. This at once had the desired effect of leading many to clean up. Step by step, the residents, becoming more and more interested in improvements, have carried out their plans until today no neater or more attractive suburb can be found anywhere in the country.

One of the features of this development has been the offering, by the Company, of a series of prizes amounting to \$250.00 annually for the best examples of front yards, back yards, vines, window boxes, and boys' vegetable gardens. Ten prizes are given under each division, varying from \$5.00 to \$10 each for the first five, the remainder being a year's subscription to some monthly magazine. These prizes are open to employees wherever they may reside, and to

residents of South Park. Special prizes have been offered for the best yards adjoining any railroad entering the city.

The effect of these prizes and this influence is felt throughout the entire city. Often only one person on a square begins the work, but the improvement is so marked that the neighbors naturally follow the example. During the past year the contestants for the prizes were more than twice as many as in the preceding year. By discouraging the use of tropical or rare plants and urging the planting of hardy shrubs and familiar flowers the expense

of this beautifying is greatly lessened. Seeds and vine roots are frequently given to all members of the Sunday school and clubs. Many of those who have contested for the prizes have had no plants additional to those obtained in this way.

Not the least encouraging of the results is the effect upon the boys and girls of the neighborhood. The back yards are especially under their care in the system of prizes. The result has been remarkable cleanliness and beauty in many of the yards. Some of the children have shown unusual ability and have

undoubtedly discovered their bent. To emphasize its encouragement of work for children the Company has provided forty-three vegetable gardens of 10 x 140 feet each, open to the boys of the neighborhood between ten and fourteen years of age. The Company supplies the ground, tools, seeds, and an instructor, allowing the boys to have whatever they may raise, and offers prizes for the best gardens. So popular have these gardens become that last season nearly



JOHN BAUER
PRIZE WINNER, BOYS' GARDEN

twice as many gardens could have been used. In addition to raising a large quantity of vegetables for home use, the boys disposed of about \$80 worth in cash.

The effect of this beautifying of yards by the planting of vines and shrubbery is seen in the interiors of homes and in the general character of the people. Property in this part of the city has increased very largely in value, and the testimony of owners and real estate dealers is that these methods are the leading cause of the change. EDWIN L. SHUEY.

Dayton, Ohio.

COME INTO MY CONSERVATORY.

MY little greenhouse was built for profit financially, as well as for pleasure, but I'm free to confess we have realized but a mere trifle from the former, while the amount of pleasure derived cannot be estimated. To watch five hundred plants grow, and bloom, and thrive in an atmosphere not unlike that of a warm summer day after a refreshing shower, while the thermometer outside the door registers more than one figure below zero, is, to put it mildly, a pleasure.

My next door neighbor (who is a typical son of the Emerald Isle), said to me, as he looked in this morning, "Be cripes, Mrs. White, I'd kape it goin' if I niver made wan cint."

So I've been reading every day,—gathering historical, poetical and biographical facts associated with my plants, the knowledge of which has added greatly to my enjoyment of their intrinsic beauties.

One of my hanging baskets contains a thrifty specimen of *Tradescantia zebrina*, vulgarly known as "Wandering Jew." Its botanical name is associated with a celebrated florist, John Tradescant, gardener to that unfortunate monarch, Charles I. Tradescant was a Dutchman, and was called Tradeskin by his associates. He established a botanic garden in Lambeth, England, as early as 1629, which was then a rare thing. He also col-



N. C. R. BOY GARDENERS
READY FOR WORK

And "goin'" it is, even though it pulls pretty hard on my purse-strings to supply fuel to keep the temperature up to the required point. Jack Frost and I have had some exciting struggles, but so far I've beaten him back, and my little family has not known of his existence.

And the pleasure of it all! Why, even Dick (that's Mr. White) takes his "daily" and beloved meerschaum, and tilted back in his easy chair, his feet bench high, he is a picture of solid comfort surrounded by "green things growing."

Some poet has well said there is

Not a tree,
A plant, a blossom, but contains
A folio volume. We may read, and read,
And read again, and still find something new;
Something to please and something to instruct.

lected a botanical museum, of which Flatman, the painter-poet, said

Thus John Tradeskin starves our wondering eyes
By buying up his new-born rarities.

He bequeathed this museum to his friend Elias Ashmole. His wife contested the will, but failing in her suit, and not willing to be resigned to the loss of the museum, she foolishly drowned herself; this tragedy so affected Ashmole that he did not care to keep it in his possession, and he presented the museum to the University of Oxford in 1677.

Did you ever try training a petunia over a trellis? I saw one grown in this way in an old lady's kitchen window. The seeds were planted in a box the length of the window-sill; strings were fastened from the side of the box nearest the glass to a strip of lath that

fitted tightly in the casing even with the top of the lower sash. It was so beautiful I determined to try it, the effect being so striking. As you look at its striped petals, smiling from their bed of green leaves, would you ever think anything so charming could be made by a little training of so modest a flower? The petunia originally came from South America. There it was cultivated as a garden annual. In 1823 it was introduced into

the gardens of England; the first plant taken there was the white variety. Seven years after the purple one was brought from Buenos Ayres. The improvement of this flower by high cultivation is truly wonderful, and the lover of the beautiful rejoices in the skill which has made the attractive hybrids and the superb giant-flowered strains from such modest originals.

N. S. W.

New York.

FROM MY GARDEN NOTE-BOOK.

THERE is little use in trying to grow the hollyhock without treating it for rust. Last spring I prepared for it by laying in a stock of Bordeaux mixture. I began to use it early in the season. The result was that I had fine hollyhocks, while my neighbors, who did not use the fungicide, had none. The only objection I could find to the application was that it discolored the foliage badly, the lime leaving a sediment all over the leaves. This season I shall try the copper carbonate preparations.

* *

We advise potting young chrysanthemums, when received from the florist, in small pots, and shifting to larger ones as soon as the roots have filled the soil. But, as a general thing, this advice is only half taken. The amateur takes the first half, but neglects to give the shift advised when it is needed, and the consequence is the plants become root-bound and receive a check from which they seldom fully recover. My experience with the chrysanthemum has convinced me that three things are to be guarded against if one would grow this plant well: *Never allow the plants to become root-bound; never let them dry out at the roots; and never let them suffer for food.* Either one of these will result in poor plants. If you would have a steady development of them from spring to fall, they must be shifted to allow for root growth, they must be always watered well, and they must have plenty of rich food. These attentions given, anyone can grow them, and grow them well.

* *

One of the most satisfactory plants of the winter was the new *Browallia speciosa* var.

major, or gigantea, as some dealers catalogue it. At no time during the season was it without flowers; generally it was a mass of them, of a rich, dark blue—a very rare color for winter. The first browallia I ever owned Mr. James Vick sent me, not long before he died.

* *

Another most excellent winter-flowering plant is America, the dwarf geranium introduced by Mr. Eicholz, of Waynesboro, Pa. It is a lovely salmon, marked with white, always in bloom. It is one of the brightest, cheeriest varieties in the whole geranium family. Little plants, not a foot high, often bore a dozen trusses of bloom at a time. Its dwarf, compact habit makes it a fine house plant.

* *

In preparing and using the copper carbonate fungicide, not long ago advised in this MAGAZINE, great care must be taken to see that the copper carbonate is thoroughly dissolved before an application is made to the plants. I prepared some after that formula, and lost the foliage of a good many plants by it. On investigation I discovered that there were tiny particles of undissolved carbonate in the water, and when these fell upon the leaves they turned them black. Care should also be taken about using it in a room where the *Adiantum* ferns are. The fumes of the very strong ammonia used in making the preparation will cause the young and tender growths to blacken and shrivel. I think it would be wise to strain the copper carbonate and ammonia to make sure of keeping back the unprecipitated matter.

EBEN E. REXFORD.

Wisconsin.

WHERE BLUE-BELLS GROW.*

ALL who are familiar with the Maine coast know this graceful flower. Nodding far up the steep side of some gray old bluff, one wonders how so dainty a flower can live in such a place where one

Hears the moaning on the shore,
Of the waves in constant motion.



SPIKE OF FLOWERS OF
CAMPANULA ROTUNDIFOLIA †
One-half natural size

High up, on the fir-crowned headlands, where rough winds blow and the salt spray dashes, this bold little flower dares to grow.

While sitting on the shore in summer, with the surging waters at our very feet, how many of us have spied with delight, high up, out of our reach, a tuft of blue-bells,—trembling and shaking its bells in the ocean breeze! It is a favorite wild flower of mine, and I have tried to transplant it to the garden,

but have not yet succeeded in making it grow; I think I tried too late in the season, as wild flowers



HEADLAND AT CUTLER, MAINE
A BLUE-BELL HAUNT

resent being moved after they are budded; I mean to try again, earlier in the spring. It blooms in June and all through the summer, into the autumn.

Not only on the bluffs, but in a low spot not far from the headland shown in the engraving, there is a large patch of this lovely flower, which, when in full bloom is a beautiful sight, with both blue and white violets growing all around. As I have both blue and white violets growing year after year among the grass in our yard, I feel confident I can establish the blue-bell as well, and that it is a beautiful and hardy flower with which to adorn sea-side cottage gardens.

I have never seen the blue-bells of Scotland, but in order to surpass those of Maine they must be very lovely. I think this is the self-same flower to which Sir Walter Scott alludes in "The Lady of the Lake":

E'en the slight harebell raised its head,
Elastic, from her airy tread.

This delicate flower, dainty enough for the fairies' chime bells, arranged with wild roses, is very fine for bouquets. Its language is "health."

MARY MOORE THURLOW.

* The plant referred to in this communication is evidently *Campanula rotundifolia*, of Linnæus, which grows in locations such as here described, and in that region. Gray calls it Harebell, and Britton & Brown give it the same common name, and, also, Blue-bells of Scotland.

† The name *rotundifolia* in connection with this plant is usually a mystery to inexperienced collectors, as the plant is seldom found exhibiting any but linear leaves, unless, perhaps, it may have near the base one or two ovate or ovate-lanceolate leaves. Only the root leaves are roundish, and these are seldom seen. Gray, (Manual of Botany, sixth edition) referring to this feature and the name, says: "A most inappropriate name, since the round root-leaves are rarely obvious." The following is a part of the description here referred to, by the same author: "Root-leaves round, heart-shaped or ovate, mostly toothed or crenate, long petioled, early withering away." No more complete

or more definite information in regard to this feature is given by other authors.

The plant propagates itself not only by seeds, but, also, by slender root-stocks. Our artist, Mr. John Walton, has supplied a sketch from which the illustration has been made that is here shown. The sketch was made in the month of July, and the plants were growing on a sandy knoll near the shore of Lake Ontario. This is Mr. Walton's account:

"I noticed some harebells, and reaching for the plant, pulled it up, root and all, and still it held! So, taking the plant in my right hand I carefully cleared away the dry, sandy soil, working to the left, revealing a creeping root-stem about two feet long by actual measurement. As shown in the illustration, the first two plants were stout, with flowering stems about twelve inches high, the blooms in fine condition. Three inches to the left of these were two

THE ARCHITECT AND THE LANDSCAPE GARDENER.

A Paper read before the Central New York Horticultural Society.

DURING the last twenty years our home-makers have learned much, thanks to the timely efforts of our periodicals and art magazines, and the taste in house building and landscape gardening has been vastly improved. Cottages all of one pattern and style have given way to better and more diversified designs in cottage and house building, and the barren lawns of yore, dotted with a few lilac bushes, have been converted into a semblance of something that they ought to be, but not without some expense of money and labor. Still much has yet to be done to bring house or cottage and the surrounding grounds into that harmony which produces the best visible effects and the greatest convenience.

Few persons who build a dwelling for a home pay the least attention to the art of improving the grounds at the proper time. Perhaps they make some futile efforts when the building is done, and when it is too late to obtain good effects. The truth is that the best way to do this is to start in the right way and at the proper time. It is not well to leave this kind of work to a contractor, carpenter or architect, and have him draft your plans before you have obtained the counsel and advice of a capable landscape artist as to the site where you are going to locate the house which you intend to make your home, and in regard to the plot which is to surround it; for the laying out of grounds is not the province of an architect.

But what is a home without lawns, trees, shrubs and flowers? How desirable are trees, with their fresh green foliage in spring, with their refreshing shade in summer! Yet often beautiful trees of many years' growth, which beautify a building lot, or piece of ground, might be saved by the landscape gardener and made useful, when otherwise, left to the carpenter or the architect, they are ruthlessly cut down. Many instances are on record, and not a few under the observation of the writer, where fine groups of trees were felled to the ground, and a healthy growth of thirty to fifty years, and more, destroyed and the logs rolled up in heaps to be burned, in order to make room for the builder. After the harm was done and the grading of the grounds had been accomplished, young, feeble trees were set out and nursed with much care in place of the beauties, which could have been saved, if but a little forethought had been used at the beginning.

But people anxious and ready to build, generally do not think of such things at the proper time. A person purposing to build, goes straightway to the contractor or an architect, tells him how much he wants to expend on his house, and passes by the landscape artist, who has made a life-long study of his profession, and who would be the proper person to find a suitable location for the house within the grounds he has purchased. The better way, methinks, would be to have the grounds

more upright stems, the one with linear leaves and a shorter stem than the last, with a few withered flowers; the other with a stem scarce three-fourths of an inch high, with four small, sagittate leaves and a stolon about one inch long, the tip rooted and throwing up five or six sagittate leaves larger than the last, but no flower-stem.

"About twelve inches to the left again, was reached the final upright stem, consisting of a series of rotund, cordate, or slightly reniform leaves, all fresh and green; but the top of the branch was broken off, as was also a side branch, as shown in the drawing made on the spot. This, then, seems to be the mystery of the harebell—first, a cluster of round leaves; next, a cluster of leaves more or less pointed or angled; then a plant with two or three ovate, slightly toothed or lobed basal leaves, the rest linear, and finally plants with linear leaves only, and a full cluster of showy flowers; and all proceeding from a creeping underground stem."

Mr. Walton's very lucid account, in connection with the sketch, shows quite satisfactorily the manner of the plant's propagation. But one question remains still unanswered: Are the roundish leaves found only on the youngest plants, or do they appear early in the season even on the old plants and "early wither away," as authorities have taught

us? Will plant collectors please note this point during the present season, and, if possible, learn the facts in the case.



CAMPANULA ROTUNDIFOLIA
showing sections of running rootstock, three feet in length, bearing plants with roundish leaves, angular leaves, and others with linear leaves.—ED.

studied and designed first, the site for the building chosen, and the trees utilized by the professional artist, and then go to the architect and have him draft plans for the building that are in keeping with the landscape mapped out beforehand. The architect has generally no thought, nor eye for landscape effects around a home. He has but one point in view, and that is to have each line of his drawing stand out as attractively as possible, and he often uses impracticable effects for front and back-grounds, which are liable to deceive the man to whom this is to be a home. Thus an architect is enabled to make an elaborate drawing which never can be fully carried out, and if accepted by the builder, will, in the end, fill him with dissatisfaction and disappointment. If the architect would study landscape effects, he would perceive at once his mistakes and where he is at fault in his profession. He would not hesitate to take the landscape artist into his confidence and say: "We must work together to secure the best and most desirable results for our client." Then the landscape artist would never be called upon to cover up defects and mistakes of the architect's plans, which easily could have been avoided or corrected, if he had first taken counsel, and viewed the location through the eyes of a landscape gardener before starting to draft the design of the building. No doubt, the time will come when people will find out these errors, and, profiting by the mistakes of others, will go about building in the right and proper way.

What does the architect do first in projecting a house? Does he not properly commence with drafting the ground plan? By all means let him complete his plans and elevations. Yet, just go one step farther, have a plan of the whole lot or plot drawn first, and know just what you are about to have. Lay out your lawns, drives and walks, put in your clumps of shrubs, and place your ornamental trees where they will show to their best advantage, with the same aim and the same purpose with which the architect proceeds with his plans and decorations.

When one who dwells in a large city comes into one of our smaller cities, or country villages, what first attracts his attention? Do the cottages and public buildings take his eye? Does he not rather speak first of the beautiful lawns, flower beds and shade trees? Then give these beauties of nature a chance and

assist nature, when necessary, to achieve the most effective results through the art of the landscape gardener.

Do not crowd the house too much to the dusty road or noisy street. Save the magnificent trees often found in desirable lots and utilize them. It cannot be expected that young saplings and nursery trees can soon replace the healthy and vigorous indigenous trees, grown on the spot.

Since brilliancy of color, truthful imitation of nature and novelty of decorative material, are essential features of pleasure in improved grounds,—it is the landscape artist who is capable of satisfying an exacting, critical public, because landscape affords the widest range of color and picturesque effect. But the best results are not produced by chance efforts, but have to be studied in mass and in detail, and it is the work of the artist, so to arrange, blend and combine color and design that the architectural lines of the building appear to the beholder like a good picture in a worthy frame. Nature itself, if left alone, will commence the decorative work as soon as the building has left the architect's hand.

It is evident in many ways that the people of our country regard decorative art as dominant. Let us hope, therefore, that architecture will more closely associate with landscape gardening, and that the narrowness, which exists in some places, will give way to a broader mutual understanding and a disinterested co-operation. H. L. DRUMMER.

* * *

A GREEN CHRISTMAS.

DAME NATURE has recently exhibited many whims in California, and conducted herself with the fickleness usually attributed to femininity in general; and by so doing, she has got the goddess Flora in a sort of muddle about the proper blooming season of the flower world.

"A green Christmas makes a fat burying ground!" Perhaps so, but the author of that was not thinking of the Pacific coast when those words were penned. Possibly, too, Dame Nature did not expect a summer cut short by unusually early fall rains,—which, it seems, has completely demoralized the blossom calendar; for the apple and almond trees draped their bareness in lightest garlands of pink and white late in November; and the pussy-willows were forced to proclaim spring-time in the middle of December. Even the

steady-going acacia, which is always veiled in a cloud of golden silk during the holidays, had just begun to evolve its tiny flower-buds at Christmas.

But the hillsides now, January 3d, are knee-deep in grass, and the roadsides are fringed with the open fronds of goldbacks and blind ferns and tender shoots of the soap plant. Up the little cañons, along stream banks, the wild azaleas are tipped with gorgeous knots of crimson, white and gold, even though slight

feet tall; its blooms are from special terminal buds, and the flowers are from ten to twenty in a bunch, pearly white slashed with vivid crimson, and dashes of gold. The stamens are long and stand out well beyond the petals, and the fragrance is peculiarly oriental and overpowering sometimes, in a closed room. It is said the roots and leaves contain narcotic poison if eaten, but they are harmless otherwise.

MARY H. COATES.

California.



Californian Azalea

RHODODENDRON OCCIDENTALE, Gray
AZALEA OCCIDENTALIS, Torr. and Gray

frosts have denuded them of most of their foliage. Irrepressible azaleas! No shifting of the season can intimidate them or cause them to withhold their gay banners, for they are almost ever-blooming, and one may find their blossoms in every month of the year, if he knows where to look for them at the different seasons,—up streams, hidden in shady cañons, or by lagoons almost in the cool spray of the dashing old ocean.

The haunts of the azalea are principally along stream banks and near the sea coast. It blossoms every month in the year, but is at its best in May; and those in the open have brighter colors, more intense red and yellow, than those in the shade of overhanging trees. In regions farther removed from the sea, its foliage turns deep red and yellow before falling.

This rhododendron grows from six to twelve

SUGGESTIONS FROM MY WINDOW GARDEN.

OTHONNA and German ivy are among the finest plants for hanging baskets.

The Buttercup oxalis is not surpassed by any plant in freedom and constancy of bloom. Its color and delicate perfume are delightful.

Nicotiana affinis is an excellent plant for the house in winter. So is Tropæolum Lobbianum.

I am experimenting with an oxalis known as the "Duchess." Its color is fine,—a rosy pink, with yellow throat. The flowers, though few in number, are very beautiful in themselves. It is much larger of bloom than any other oxalis. One I measured last week was a trifle over two inches in diameter. But the plant is so dwarf and the flower stem so short that it gives one the impression of a monstrosity, robbing it of very much of its beauty.

Sturdy, rapid growth, rich green foliage, profuse and continued blooming are the qualities ardently desired in house plants. One of the most efficient aids to these much desired ends is proper feeding. A twenty-five-cent box of Excelsior plant food will last many months and is the best article for the window garden with which I am acquainted. It is a matter of surprise that so many do not use it.

Everyone should grow the *Dicentra spectabilis* (the old-fashioned bleeding heart) as a winter bloomer. It is easily forced and what can be more beautiful?

Narcissus Paper White and lily of the valley are two of the very best winter bloomers.

The bulbs and pips may be potted and started into growth at once, or set in a cool place to be forced at any time. The narcissus will bloom in about twenty days after being placed in the light, and the lily of the valley will usually bloom in four weeks after growth begins. The plants shown in the illustration had been in the cellar about two months and in the window five weeks when the photograph was taken. The lily stems averaged over eight inches in height and the narcissus about twenty inches.

One of the very finest of the variegated-leaved plants is the *Abutilon Souvenir de Bonn*. I find it even more than the catalogues claim for it.

S. L.



Grown in window
of living room

NARCISSUS PAPER WHITE
LILY OF THE VALLEY

CUT FLOWERS FOR PROFIT.

IN SMALL places as well as large ones, the florist's standby is roses and carnations, with the violet, queen of the early spring. It would be a waste of time to enter into details of culture. Other contributors have ably discussed these points again and again.

Violets must be forced into bloom very early, however, or they will not realize expenses. They sell well until after the wild violets have gone, then popular sentiment turns to newer things. I grow and find ready sale, as cut flowers, pansies, sweet peas, asters and chrysanthemums. Sweet alyssum is a good standby for funeral white, its dainty, fresh fragrance is so delightful. I find many who object to

tuberoses for this work. This is a good flower, however, and gladioli, *Swainsonia alba*, *achillaea* and white sweet pea are good. For weddings, the rose and carnation are pre-eminent, and I find *Marechal Niel* and *Bridesmaid* to be the favorites in roses, while pink is the prevailing favorite for carnations. I raise the *Perle des Jardins* extensively for yellow roses, growing also such other kinds as seem to be good. I find a rose with handsome buds to be most useful, although I grow other kinds for use in decorations. The *Clotilde Soupert* is a good, all round rose for general use, and I use a good many Fairy roses, especially the white. I grow the *Marguerite* carnations and

find them very satisfactory in cut flower work, often depending on them when my greenhouse beauties are a little backward. I buy wire designs for cut flower work and make them up myself.

For this purpose I grow smilax, *Asparagus Sprengeri* and ferns of assorted kinds. For funeral work I use smilax, asparagus and maiden-hair ferns. For bridal bouquets, graduating favors, etc., I find the sword ferns best.

I always arrange my flowers myself, where practicable, because I can use them to the best advantage. A pretty decoration of last spring was worked out in violets and smilax. It was for an "informal luncheon," which means that everything must be extra precise. A heavy rope of smilax was laid up the center of the table, a large oval waiter in the center of the table was wound around with ropes of smilax and filled in with maiden-hair fern; this was sown thickly with violets in clusters; smaller ovals at the head and foot of the table were similarly arranged. Lines of violet ribbon led from the center decoration to each plate, ending in a loop which held a spray of ferns and violets for each lady, a boutonnière for each gentleman. This is a favorite arrangement for roses, pansies and chrysanthemums. I like an airier arrangement for carnations and sweet peas. I like these in tall slender vases, well banked up with green, from which peep out sprays of bloom.

I have no fixed rule for arrangements and like to bring out new ideas myself. A very stately dinner decoration was of calla blooms and asparagus around a circular mirror, the arrangement being extended in star points. The table in this case being almost circular, no smaller designs were made. White satin ribbons ran from each star point, followed by a double line of smilax. The bouquets were of fern and Roman hyacinths. These affairs are not to be relied on for a steady income in a small town, for half a dozen such dinners will probably be all of a summer's work in this line. Buttonhole bouquets will sell steadily. Men are partial to the tuberose first. Then rose buds and carnations are next in favor. I make them up and place them in flat baskets lined with crêpe paper in a pretty shade or color, usually a soft grey, and send them out with an energetic boy to cry their beauties. Customers are always found and the baskets usually are refilled several times. The "big" days for the florist are Memorial day (when the flowers always run

short), lodge celebrations, Christmas and Easter.

But with work, a coaxing tongue and an inventive brain, there will be a "season" all the year round and you cannot fail to make something out of your labor. It is pleasant, yes, beautiful work.

INA MAY HAYS.

* * *

THUNBERGIA ERECTA.

HORTICULTURAL HALL, Audubon Park, New Orleans, has now growing under its vast dome, many of the choice and rare plants, flowering, fruit-bearing, and economic, as well as botanical curiosities, that formed the best part of the collection exhibited at the great Cotton Exposition, 1884-85.

Palms, trees, ferns, bananas, and hundreds of imposing plants that cause the visitors to turn their gaze upward toward the glass dome, are forcibly and beautifully contrasted by the numerous bloomers, small coquettish plants and climbers. Blossoming with the apparent naturalness of wild flowers, bright and pretty, but simple, the effect of such plants as this violet-blue thunbergia is exquisite, in contrast with the tropical plants and vines. These plants are labeled *Meyenia erecta* in the Hall, and a novice would never recognize them as Thunbergias. *Meyenia* is the name by which the plant was formerly called, and before it was recognized as a thunbergia. The plants average about three feet in height, and are trained to a trellis, displaying every bloom on the one side. Each flower is distinct, rather like a *maurandia* or *gloxinia* than those of its own class. The throat of the flower is violet with a dark, almost black splash, and the corolla blends into the richest purple, with blackish border around the wavy edge. The color on the whole is difficult to describe. It appears blue, violet, or purple, either color in some flowers, but, taken altogether, in the blendings, violet-blue deepening to purple is the velvet robe it wears. It makes a splendid pot plant, and in the Hall, the blooms have been profuse from May till November—and still continuing. *Thunbergia erecta* is as easily grown as the common thunbergia. In Horticultural Hall this plant is perennial. Doubtless in the open garden, exposed to the seasons it would be an annual. *Thunbergia erecta alba* is pure white, and in finest possible contrast with the other variety. The texture of the white flowers is satiny on the border and velvety in the throat.



*They whom truth and wisdom lead
Can gather honey from a weed.*
—Cowper.

WINTER IN THE BAY WINDOW.

A mild day in February, after a hard, cold spell, I "cleaned house" in the bay window. All winter the pot in which I had planted the black calla had stood in one corner and no signs of life appeared. I tipped the earth out and found I had planted the tuber upside down. It was sprouting toward the bottom of the pot. I immediately set the calla right side up with care and gave it a saucer of hot water; it began growing at once. I would suggest to others to investigate the tuber if it should not sprout as soon as one would expect it to.

I had two dozen bulbs of Bermuda Buttercup oxalis in the fall. They were fresh from the florist's. I planted them in two hanging pots, and they grew like magic; buds appeared at once and blasted. The vines grew a yard in length, and never another bud appeared. I kept them free of aphids, and have cudged my brain in vain to know why they have not bloomed.*

The geraniums are full of fat buds. So much for August slips, small pots, and south windows.

Fertilizer given once a week all winter to palms, ferns, rubber plant and pine, proves its worth. Every one has grown,—the palms putting forth a new leaf each, the ferns simply uncoiling before one's eyes, and a new whorl starting upon the pine.

As for the cacti, they have put forth growth all winter, which I consider remarkable.

A thrifty primrose sent forth a big bunch of buds. I was elated, because I have never succeeded with the shy things. The buds grew and grew—and then blasted! I immediately went and bought a blooming plant, to get even. It has pale lilac fimbriated flowers, and is a beauty.

Asparagus Sprengeri, which was a stubby potful of green, suddenly sent forth two long

* Kept too warm. Hanging near the ceiling they were in the warmest place in the room, and should have been in the coolest.—ED.

arms which reached almost to the floor, at which I took heart.

Tubers of nicotiana which were stuck in pots with other plants in the fall, have come up a lively green, and are growing apace. They are most satisfactory plants for early spring, as they bloom profusely.

The weeping lantana bloomed all the fall up to December. Then it was filled with unsightly seed pods, so I cut it back, and in February found it full of a new growth and buds.

Great, fat hyacinths are pushing up buds, and narcissus their slender tips. The crocuses are in bloom, and some late started Chinese lilies. One Easter lily, now February 5th, has gotten such a start that I am sure that I shall need to keep it in a cool, dark place, unless I want Easter lilies in March.

The amaryllis bulbs which have just come up from the cellar are showing thrifty green tips, and taken altogether the winter has been a successful one in the bay window.

RAY RICHMOND.

* *

SCALE BUGS.

These are brownish insects which trouble more or less every flower grower. While there are several remedies on the market for the pests, I want to tell of my experience. The "plague-take-'em" things would keep coming back just about so often, it mattered not what remedies I used. Having tried all I could hear of, and still being pestered in a short time again with their company, I decided to try home-made lye soap. I made the lye from good wood ashes, and know it was very strong; besides, the soap was very thick,—I did not dilute it. I was determined to either "kill or cure."

So taking my Otaheite orange tree first, I washed it, not leaving a spot untouched by the thick soap,—I was not stingy, I just used it by the handful. I did not hurry about washing it off, either, for I was really mad; I did not see any fun in squeezing, scraping, smok-

ing, choking, and fumigating those nasty bugs, and then in a short time see more appear. I made up my mind that if they had to have possession I would torment them as much as possible and then step back.

The orange tree was slowly dying by inches; it looked very yellow. When I washed off the soap I had enough pity for the tree to prevent the water getting on the soil, thinking it would kill the roots. After it was thoroughly washed I put out in the yard on a table in the hot spring sunshine, to see what the bugs would do. The next day, being very busy, I forgot it, and the following day it was a deep, dark green, and every bug dead and dried up. This was a year ago, and not one insect have I seen since, and my tree just grew and grew.

I believe soft soap far ahead of all the remedies on the market; it can be used on palms, oleanders, etc. Instead of killing the roots if allowed to soak in when washing, I find it to be a great benefit to everything,—even the soap suds from the weekly washing finds a place on my plants. I wash nearly all plants with it, except begonias and similar soft-leaved plants.

MRS. M. K. K.

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FLOWERS AS MENTAL HEALERS.

The statement, credited to the head of the House of Correction in Chicago, that he is convinced that women misdemeanants may be reformed by being taught to cultivate roses, is based upon sound psychological principles, and is likely to lead to something practical and valuable.

One who has observed the effect on his own mind of the cultivation of plants and flowers cannot have failed to perceive its quieting, healing, restorative nature. Excitement, agitation, anxiety diminish when attention is drawn away from one's self to any beautiful object, especially if it be a living, growing beauty. Count de Charney's plant "Picciola," in Saintine's beautiful tale, growing up between the stones of the prison yard, kept from insanity and despair a mind that would otherwise have been wrecked and lost. The story is not without its suggestion of what close contact with life in its lower and simpler forms may do for a soul that is shattered and unstrung through contact with the rough world of sin and care and sorrow.

It is far from unreasonable to suppose that if patients of a certain class, in hospitals for the insane, were gently, wisely, patiently taught to

observe and cultivate flowers, out-of-doors in the summer and in the window or conservatory in winter, the effect would help much toward the restoration of sanity and happiness. At all events it would certainly be a quieting, restorative influence to a great many victims of nervous disorders to water and watch a bulb or plant as it slowly and silently develops in grace and beauty and strength, continually reminding the invalid of the wonderful potency of the forces of Nature upon which all restoration as well as growth depends.

Plants have a most kindly and generous way of taking one into partnership with them in their achievements, in return for a little water and a little care, so that when the blossoms appear one feels as if he had a share in the triumph of life and beauty. A new sense of strength is felt, a new confidence in life, in himself, in the universe, as if he had been taken into a firm whose stock was rising in the market.

If plants can grow and bloom why may not he get well and work? If life is so much stronger than death why may it not have its way with him, mind and body? I do not say that the nervous prostrate, watching a plant in his window, or better still in his garden, will go through this process of reasoning, but if he has that affinity for nature which sensitive temperaments are most apt to possess, he will feel a certain indefinable sense of courage, healing, joy, stealing over him as he observes the old, but new, miracle of life and growth in nature.

Yes; set the misdemeanants cultivating roses; give the insane a taste of the joy and sanity of contact with Nature; put a plant in the window of the sick-room; let all who are broken down in body, mind or soul feel the touch of the healing, restorative forces that clothe the world with health and beauty.

JOHN WRIGHT BUCKHAM.

Massachusetts.

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CHIPS.

Bits of experience picked up now and then become a sort of amendment to our previous impressions. Thinking to have green peas in the fall I planted peas when the weather was very warm. Not one came up. In cool ground the next spring peas from the same package grew finely.

PROPAGATING UMBRELLA PLANT.

The mature leaf and seed-heads of the umbrella plant grew and rooted readily in



"A GROUP OF FLOWERS GROWN INDOORS
WITHOUT THE AID OF A GREENHOUSE OR CONSERVATORY"

water last summer when the temperature was very high, but at or below 60° not one will grow for me.

BERRY PLANTS NOT ROOTING.

A queer freak of Rathbun blackberry and Columbian raspberry is their refusal so far to root any tips. On the same soil the Black Diamond and Cumberland furnished plenty of new plants. The latter is the strongest grower of all the blackcaps, but I fear the quality will be but little better than the Gregg, very poor for home use. However, we have plenty of Kansas and Tyler; the big ones will sell. Loudon promises to be all claimed for it.

YUCCAS.

The catalogues speak of but one kind of yuccas, but I find two distinct kinds,* blooming several weeks apart. The leaves of one are much narrower than the other and the blossoms of a richer creamy hue.

CUTTING FLOWERS.

The importance of cutting the flowers from bulbous plants is not generally known. Last summer I removed gladiolus spikes as soon as they were ready for the vases, and the bulbs continued to grow till late fall, when I

found them the largest I had ever seen, and surrounded by dozens of bulblets which I hope to raise to blooming size. Henderson says "A hyacinth that matures seeds virtually destroys its bulb."

And so I find much that is interesting in noting the peculiarities and requirements of plant life, as well as in enjoying their usefulness and beauty.

KANSAS.

* * *

AN AMATEUR'S WORK.

Under separate cover I send you a photograph representing a group of flowers, grown indoor without any aid of a greenhouse or conservatory. All that was available were two large windows with southern exposure, a large room with stove heat producing an average temperature of 68° F. The hyacinths are large bulbs, named sorts, and were potted about the middle of October, then placed in a cool cellar until the end of December. Nothing but common garden soil and plenty of sand was used, to which some bone-meal was added. The rear hyacinth plants are eighteen inches high, measured from the top of the pot. The center one is a Baron van Thuyt, the two at its sides Charles Dickens. The center

* There is about a score of species of yucca.—ED.

flower is the well-known *Cyclamen persicum*, of the giant type, bought as a small plant from a local florist. This one, together with two other plants of same size, have been in bloom since the middle of December; each single flower lasted over two weeks. They were put in a cool, shady place next to the window.

On the left hand you will observe a plant of *Primula obconica*, grown outdoors during summer and afterwards taken inside. It is a pity that the tulips in the center and the *Von Sion narcissus* in front of the large fuchsia do not show to advantage in the picture; also it is to be regretted that colors cannot be reproduced in a photograph, for I think it was the most beautiful color contrast that I ever beheld, when I saw the picture on the backplate of the camera.

I am an enthusiastic amateur florist; although this is the second winter of my experience, as such, I am somewhat proud of the result attained. But I know there yet is very much to learn, and comparatively little accomplished. Still I thought I was warranted in sending you this photograph and ask you if you think it worthy of reproduction in the *MAGAZINE*. My work among flowers has been a great pleasure to me, and I wish that everyone attempting flower culture may find it an equal source of satisfaction.

New York.

A. E. ALTENPOHL.

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THE CLEMATIS TROUBLE.

The clematis trouble which all of our readers have probably heard of, and many of them seen in connection with their own plants, has been variously ascribed: First, to nematode worms in the roots; second, to a small worm girdling the plant at its base; third, to a fungus attacking the base of the stem. These three supposed causes or theories are stated, with some remarks on them, by Mr. W. V. Smith, in a late number of *American Gardening*. The first theory Mr. S. concludes is not sustained by the facts concerning the failure and death of the affected plants. The second theory he holds is supported by all the symptoms of the diseased plants, though possibly a fungus may be an additional factor in the disease. It may be observed that if a fungus is known to be present it may be the effect of the injury caused by the worm, and such injury would cause the stem to die down anyway. The fungus theory may be dismissed if

the second position can be maintained. In support of it he quotes from a letter from F. Morel, Lyons, France, as follows:

The cause (of the clematis disease) is attributed to a small worm which penetrates the fissures of the bark and decomposes a ring around the new shoots.

Clematis growers are appealed to, to make careful observations this season to find the real cause of the trouble. If the trouble is found to be this supposed small worm, there should be discovered the insect of which the worm is the larval form.

* *

THE CELERY CATERPILLAR.

The butterfly *Papilio asterias* is one of the most beautiful, as well as most common, of the large family of *Papilios* or winged-tailed butterflies. The adult insect is of a rich velvet black, with two rows of yellow spots bordering the wings, ornamented also with seven silvery-blue markings. We see it in early summer flitting above our flower-beds, itself the prettiest flower of them all.

Even in its more humble larval state it is really handsome. The general color is pale green with transverse bands of black and yellow. When irritated it often thrusts forth from a slit just back of the head a pair of peculiar V-shaped horns which emit a disagreeable odor, a protection provided by nature no doubt. It finds its food in our vegetable garden, living not only upon celery, but carrot, parsley, and also upon the wild carrot, and other aromatic plants. In its first stage as a caterpillar its color is black, with a white stripe down the back. The next change is marked by a white stripe also, ornamented with orange and white spots. The eggs are very small, of a light yellow and found upon the under side of the leaves of the plants upon which the caterpillar feeds. When fully grown it spins a silken web, within which it entangles its hind feet, then forming a loop fastens it to the middle of its body, under which it passes its head in a manner to support its body. Within twenty-four hours it becomes a pupa with two short ear-shaped projections, having in the course of its changes the three colors, pale green, ochre yellow, and ash gray. In this state it remains ten to fifteen days, then the chrysalid bursts, the poor bedrabbled insect issues forth, clings for a short time to its deserted house, then with wings dried and extended to full dimensions the beautiful creature spreads them to the breeze and is soon lost to view.

MRS. S. E. KENNEDY.

THE TESTING OF SEEDS.

Much is said about the testing of seeds, and much needs to be said; but the grower needs to bear in mind the fact that the ordinary testing of seeds may not show what the value of the seed is to him. Seeds are tested for two purposes: First to show what the purity and vitality of the sample is; and second, to show whether the seeds are true to name or not. The latter test can be made ordinarily only by growing the crop to maturity, and in this direction the grower must depend almost entirely upon the word of the seedsman with whom he deals.

Germination is not completed until the young plant is able to support itself by its own root-hold on the ground. A seed may be able to sprout, and yet be so weak as to be valueless for planting in the soil. A seed which may even germinate in the soil in a greenhouse, may still be so weak, that if the plantlet were subject to the untoward conditions of the garden, it might perish. It is apparent, therefore, that any sample of seed may give very different percentages of germination, depending upon the method of making test. If the test were made in a machine which, like the incubator, has a very uniform temperature, and the seeds were counted and thrown away as soon as sprouts appeared, the percentage of germination would probably be very high. If the same seeds were sown in carefully prepared soil in a gardener's flat and placed in the greenhouse the probability is that a somewhat lower percentage would be apparent. If the seeds were planted in an ordinary greenhouse bed and were to receive the ordinary watering which growing plants receive, a still smaller percentage of germination might appear. If the same seeds were planted in the open ground, the percentages would likely be still smaller.

What now is the fair germination test for seeds? It is apparent that the seedsman or seed tester cannot imitate the varying conditions of a garden. He does not know what kind of a garden the buyer has; therefore, he must give all the seeds a uniform condition and one which will show how many seeds will sprout under the most favorable conditions. What he must do is to show the greatest possibility of the sample, not what the sample may necessarily be expected to do under general garden conditions. I often hear seed buyers express disappointment that their

seeds do not produce as many plants as the germination tests led them to expect. The difficulty was no doubt, that the germination test was made under the most ideal conditions, whereas the planting was made under normal outdoor conditions. It would seem that if one desires to know what any batch of seed is capable of doing, he should make a test for himself, choosing fifty or one hundred seeds from the sample and planting them early enough to determine the germination vitality before it is necessary to make the regular planting. This germination test would better be made, I think, in well prepared soil, in a shallow box or pan in the greenhouse, hot-bed, or in the living room. The germination tests which are made by seedsmen and others are of the greatest value in showing the vitality, vigor, and the possibilities of any sample of seed, but people should understand that these tests are no guarantee of what the seed will produce under actual and varying conditions.

L. H. BAILEY.

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THE NEGRO AS A FARMER IN THE SOUTH.

A large part of the secret of the future unblocking of the South's vast possibilities of wealth and culture and happiness lies in the thorough and contented acceptance of agriculture by the colored race. Generally speaking, the young colored people of the South associate farm and plantation life with the most repellent drudgery. And so they look instinctively toward the gregarious life of towns, with the accompaniment of the good clothes and the luxuries that do not go with the old tumble-down cabin of the farming life that they have known. Nevertheless, farming must go on in the South, and the negro race must continue to do the bulk of the farm work. The negro's best chance for the advancement of his personal fortunes now lies in the purchase and cultivation of a piece of land. A large part of the mission of the Hampton Institute is to teach the young negro that it is just as fine a thing to be a good farmer as it is to be President of the United States.—*American Monthly Review of Reviews*.

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MOCCASIN FLOWER FOR FORCING.

I hope I will never be without your MAGAZINE. The moccasin flower in the December number was fine. Do you know it forces grandly for winter? OLIVIA E. CHAPMAN.

GERANIUM GEORGE SAND.

With colored plate.

We are pleased to place before our readers this month a colored plate of one of Lemoine's finest acquisitions of late in geraniums.

George Sand is not only unique and beautiful in the coloring and markings of its flowers, but of the most perfect form. The plant is vigorous, a good grower, and produces freely its great umbels of daintily colored flowers. These, as may be observed, can best be described as quite round in form, white suffused with pink and very delicately dotted with small, bright carmine spots. The flower cluster is supported by a long, stiff, upright stem, holding it well above the foliage, and making it particularly serviceable for cutting.



BEGONIA HERACLEIFOLIA

BEGONIA HERACLEIFOLIA NIGRICANS.

The description of the type, given in Nicholson's Dictionary of Gardening, is "Root stock thick, fleshy; leaves radical, with long pilose stalks, palmate, large, bronzy green, margins toothed, hairy; flower stalks long, stout, erect, hairy, many flowered; flowers rose colored; plant spring flowering; a native of Mexico."

The accompanying photograph is of the variety nigricans, which differs from the type in having the foliage of purplish-black tint about the margins of the lobes, and in having flowers pink or nearly white in color. The plant shown was photographed in February of this year, being in a six-inch pot, and nearly

two years old. It will remain in good bloom about six weeks.

The plant is of easy culture, in light soil, under thinly shaded glass. It endures well the usual conditions of the living room as to temperature and atmosphere. It is easily propagated from cuttings of the mature leaves. Besides being quite showy when in flower, it is an attractive foliage plant at all seasons.

Pennsylvania.

F. W. BARCLAY.

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ORIGIN OF THE ROSE.

Under the title "Where does the Rose come from?" *La Semaine Horticole* says that for old Europe and the Western countries it has come from the country of Homer. At the epoch of the Trojan war it was introduced from Asia Minor. In eastern countries, in in China for example, it has been held in honor from the most ancient times. It is known that Confucius dedicated poems to the beauty and perfume of the rose, which he called the queen of flowers. It is said that among the 18,000 volumes forming the Imperial library of China, 1,500 treat of botany and plant culture, and that a third of these last, or 500 volumes, are devoted to the rose. According to the *Rosarium*, the imperial gardens contain so many roses that their flowers produce annually more than \$12,000 worth (60,000 francs) of rose essence.

These observations are concluded with the astounding information contained in the following sentence, in which history and geography are wholly ignored: "Christopher Columbus found the rose among the Peruvians, who called the rose-bush the tree of heaven."

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NICOTIANA FOR A HOUSE PLANT.

I wonder if the flower-loving sisters know that the nicotiana, coarse though it may be, makes a very desirable window plant. It takes considerable room, to be sure, but really pays well for the place it takes. We usually set a small plant taken from the garden in the fall, and as it requires but little care through the winter find ourselves fully repaid when toward spring it covers itself with creamy white flowers, which fill the room with fragrance. A few winters ago we were the happy possessors of a plant which bore at one time twenty-six fine large blossoms. It was indeed a beautiful thing, and as it was our first experience with nicotiana as a house-plant was, of course, a revelation. MRS. S. E. KENNEDY.

HARDY CLIMBING ROSES IN NORTHERN NEW YORK.

Whether plants are "hardy" or "perfectly hardy" depends altogether on the location. These terms are only comparative, a fact plant-buyers should always keep in mind. The rose, Queen of the Prairie, which is quite hardy in Western New York, appears to need protection in the northern part of the State,—at least it is undoubtedly better that it should have protection.

"I enclose a picture," writes a correspondent, of St. Lawrence County, "of a Prairie Queen that I bought about eight years ago; it has exceeded my greatest hopes, and, as you see, it quite owns a half of the south side of the house. It has been the admiration of the town and of people visiting here. It is in its prime during commencement week, and as we live on the street to the college, all the strangers see it. I have it all taken down in the fall and covered with evergreens, as I do all my roses, so it comes out perfect in the spring."

* * *

POLYGALA PAUCIFOLIA—A BEAUTIFUL FLOWER.

In winter if there is no snow, you may see among the evergreen mosses, pyrolas, saxifrages, or what not, generally in company with oaks and pines, many pretty, smooth-leaved plants three or four inches high, the leaves being all at the top of the stem, like those of the wintergreen. They are an inch or so long, rather obtusely diamond-shaped, and mostly brown or purple in winter and early spring. The slender stems arise from thread-like, creeping roots, and there are likely to be extensive patches of the plant where it grows at all. It is the *Polygala paucifolia* of the botanist, sometimes called flowering wintergreen. It is very pleasant to see these pretty plants in early spring before any growth begins, but to find their rich bloom in May or June is still more so. All *Polygalas* have irregular flowers, and this species has a flower of the richest crimson, which instantly suggests a moth or butterfly on the wing. The body of the insect is nearly an inch long and the extended wings about the same, and thus the ground along the woodside shows what appears to be a flight of moths. The winter foliage dies in spring, and the flowers, borne on new stems, are surrounded by new leaves of the brightest green. Soon there are thin circular seed

capsules half an inch wide, but not all, nor many of the flowers produce them; little pale self-fertilized (cleistogamous), bud-like flowers arise from the root, and the seeds they ripen are already planted, since the flowers are wholly underground. Other *Polygalas*, and quite a number of other plants, among which are violets, have these strange subterranean bud-like flowers.

Most of the stems of this *Polygala* are one-flowered, but now and then one has two flowers. The large "wings" are really sepals, the other three being small and inconspicuous. Most of our *Polygalas* bear many small flowers in thick spikes, so the structure of their



ROSE, QUEEN OF THE PRAIRIE

strange flowers is not so soon noticed. *P. Chamæbuxus*, of European origin, is an evergreen shrub with large yellow flowers; and three or four Cape species are in greenhouse cultivation.

E. S. GILBERT.

New York.

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BIRDS IN NEW YORK.

There are many surprises awaiting the visitor to Central Park these bleak March days. I went there hoping to see the robin, and found a red-breast of such a glorious red color that I was enchanted. Red-breast, I said, but this beautiful bird was all red, a perfect scarlet, with just enough black below his bill to emphasize his color. He hopped on the bare bushes with his sober grayish mate, whose

brilliant touch was her vivid red beak. They were Cardinal birds, the real Kentucky Cardinals, and have become domesticated there.

While I was watching them the air was filled with a tender, sustained song, and I saw the singer, a little black and white bird with some scarlet touches. It was the European goldfinch, which also has become a resident. Not only in the Park, but the city streets above 55th have become populous with the English starling, a large, dark, iridescent bird with a clear whistle. In view of the English sparrow, who had the courage to import these last new comers?

N. M.

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A FLORAL FAIR.

The ladies of Superior, Minn., are certainly enterprising. Some months since they organized a Floral Club whose aim is to create an interest in the flora of Superior. It was decided that the best results would be attained by holding a fair, and this has been appointed for September next. The merchants and others have offered premiums and much interest in the cultivation of flowers has already been awakened.

A long list of premiums is printed in a local paper, and the success of the undertaking seems assured. We think some of our eastern towns might well "go and do likewise."

* *

AN ACCOMMODATING PLANT.

In the spring of 1898, seedling plants of *Nicotiana affinis* were planted fifteen inches apart in a bed. They began blooming early in the summer, and continued until severe frosts, at which time one of the plants was potted and placed in a cold pit. In December it was moved to the conservatory, and a month later it was again in full bloom, and was almost the favorite in a large collection of plants.

It remained in bloom for over three months and was then removed to the garden, where it soon sent up new flower stalks, and bloomed more abundantly than ever until late in the fall.

The plant is now (March 14), before me on a shelf by a window in the sitting room, where it has been blooming since Christmas. The plant now shows nine graceful flower stalks, each having several blossoms. The white star-shaped blossoms are three inches across and very fragrant.

The plant will be removed to the garden to

bloom for another season, and how long it will continue in this accommodating way remains to be seen.

I would pronounce *Nicotiana affinis* one of the most satisfactory flowering plants in cultivation, especially for the amateur.

Illinois.

EDWIN H. RIEHL.

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OXALIS BUTTERCUP.

Our illustration shows a hanging basket filled with *Oxalis Buttercup*. As it hung in the bright sunshine of the greenhouse, every blossom fully expanded, it was a beautiful sight. The flowers are a bright, buttercup yellow, borne in quite large clusters on long stems. Five or six bulbs filled the basket, giving an abundance of bloom. If the picture



OXALIS BUTTERCUP.

could give the beautiful shade of coloring, the daintiness and brightness of the flowers, you would be charmed, as I was, and in the fall would invest in some of the bulbs.


Plenty of water and sunshine are all the requirements for an abundance of bloom.

F. B.

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ORIGIN OF THE JAPANESE CEDARS.—The Japanese cedar, *Cryptomeria Japonica*, so common in Japanese gardens, has never been found in a wild state. As in the case of so many of our garden evergreens brought from Japan under botanical names, it is suspected of being a form of something else. There is a striking resemblance between the seeds and those of our mammoth *Sequoia*.—*Meehans' Monthly*.

* *

A  on the wrapper of the MAGAZINE means your subscription expires this month. Please renew promptly.

REMARKABLE ROSE DISPLAY AT THE EDEN MUSÉE, NEW YORK.

The American Rose Society's first exhibition which opened March 27, at the Eden Musée, surpassed in magnitude and quality the most sanguine expectations. Fifteen thousand high grade exhibition blooms poured in from all parts of the country, till the winter garden where the display was exhibited, overflowed with flowers, and late comers were unable to find space. There were 127 distinct entries, comprising about 15,000 blooms, by over fifty exhibitors, making the most wonderful floral show ever seen in the United States. Some of the most prominent exhibitors were, Hon. Whitelaw Reid, C. F. Dietrich, S. Thorne, Hon. Cornelius N. Bliss, J. C. Browne, John B. Crimmins, Morris K. Jessup, A. G. Spalding, W. L. Stow, Hon. Levi P. Morton, Gen. Turrell, F. O. Mattheissen, Wm. Rockefeller, W. Hoyt, and E. D. Adams. A liberty cap made of 1,000 blooms of the wonderful new red rose Liberty draped with the American flag, was one of the best made up pieces. Botanists were interested in an old Japanese rose plant imported by Mr. Siebrecht. The plant is said to be over 400 years old, and is a type of the origin of all the tea roses.

There was a model rose garden made of real rose plants, with walks and lawns recalling the rose gardens of the classics. Mirror decorations showing how the rose can be best employed, formed a valuable object lesson. A novel decoration was a rose tree built up of several hundred long-stemmed roses, to represent a full-sized lawn tree in full bloom. The Liberty was used here.

Maréchal Niel rose came from A. G. Spaulding. The best red roses in the show were staged by L. M. Noe.

American Beauty, the popular favorite was best shown by J. Heacock, Pa.

E. G. Asmus had the largest lot of named roses on exhibition.

Admiral Dewey, a very pale pink, was prominent among new roses. Sara Nesbit is a new pink sport from Madame Cusin. The pink American Beauty, The Queen of Edgely attracted much attention. Robert Scott, a new H. T., and Bridesmaid and Beauty, were shown most; other notable roses were Mrs. Pierpont Morgan, Golden Gate, President Carnot, Lady Dorothea, which originated in Canada, Meteor, La France, Maréchal Niel, the best of all yellows. Prominent among

the visitors at the Eden Musée at the opening were, Mrs. Geraud Foster, Mrs. Thomas H. Mason, Mrs. A. M. Joline, Mrs. J. S. Kennedy, Mrs. Abram S. Hewitt, Miss Hewitt, Mrs. Lawson Valentine, Mrs. C. I. Hudson, Mr. Morris K. Jessup, Mrs. D. S. Egleston, Mr. J. S. Kennedy, Mrs. S. S. Sturges, Mr. F. W. Newbold, Mr. Sheppard Knapp, Controller Coler, Mrs. Pagenstecher, Miss Pagenstecher, Mrs. W. E. Dodge.

LIST OF AWARDS.

The Mason Cup, value \$100, presented by Mrs. T. H. Mason for the best display of roses in two hundred blooms, went to Peter Crowe, Utica, N. Y., in a strong competition of ten.

The Cup offered by Cornelius N. Bliss, value \$50, for the best fifty blooms in the show, was won by E. G. Asmus, with "Liberty."

Mrs. John Trevor's prize, the best arranged vase, was awarded to B. Dorrance, Dorrance-ton, Pa. the president of the Society.

Mrs. Louise FitzGerald's prize for thirty-six roses (not American Beauties), went to T. J. Kelly, Madison, N. J., with Bride.

The Thorley Cup brought a strong competition. E. G. Asmus leading with an unparalleled display,—twenty-nine named varieties, all splendid specimens.

The Taylor Cup for Admiral Dewey, a charming pink variety, was won by a member of the committee, and stays with the Society to be offered again.

The Hoffmeister Cup for Maid of Honor, was won by the raiser of that rose.

The prize for Golden Gate, President McKinley's favorite rose, went to Robert Simpson, Clifton, N. J.

General Terrell had the best thirty-six blooms in the show.

J. H. Dunlop, from Canada, beat all the home growers with Bride and Bridesmaid, against ten competitors.

Morris K. Jessup showed the best Bride and Bridesmaid in the amateur class.

E. G. Asmus had the best decorated displays, chiefly of "Liberty."

New York Florist Club's Gold Medal for the best 100 roses, went to Peter Crowe, of Utica.

The Lincoln Prize for the finest roses in the entire show, was awarded to E. M. Wood, of Natick, Mass.

PROFESSOR VAN DEMAN'S FRUIT NOTES.

PINCHING BACK BERRY CANES.

When the young blackberry and raspberry shoots get about a foot high is the right time to pinch off their tips. This will cause them to make lateral branches instead of running up to long slender canes. It is a common error to delay this work until the shoots are almost grown, and then cut them back severely. It is then too late in their season of growth for them to form strong laterals, well covered with fruit buds. If it is done early in season, the bushes will be well shaped, they will not be stunted by the pruning, and there will be abundant time for the formation of fruit buds.

HOW TO DRIVE AWAY MELON BUGS.

It is only within a few years past that I learned how to protect melon plants from the little striped beetles that do so much damage while the plants are small. Turpentine will drive them away, but it will kill the plants if it touches them. My plan is, to mix an ounce or so of turpentine in a gallon of ashes, and, after stirring it thoroughly, to drop about a tablespoonful on each melon hill. None of these bugs will light near it, and those that are near it will take wings and fly away.

ONE OF THE BEST INSECT POISONS.

For many years we have been using Paris green, London purple, and other arsenites for poisoning insects that chew their food. Very little has been done with the cheaper and more effective use of white arsenic. For a time a very good preparation has been made by boiling white arsenic in lime water, but this has one of the bad faults of Paris green, in settling in water quickly, thus making one part too strong while the other is too weak, except when the liquid is constantly agitated.

There has lately been a new preparation that is superior to Paris green and other arsenites in killing power, in cheapness, and in uniformity of liquid ready for use. It is made by boiling together one pound of white arsenic and four pounds of lump soda in one gallon of water, for about fifteen minutes. This will be sufficient to thoroughly dissolve them and make a clear liquid that will not form a sediment at the bottom. It should be put in a jug, tightly corked, labeled POISON, and locked up securely. It will be ready for use any time. The cost will not exceed 25 cents at any drug store, and it is fully equal

to two pounds of the best Paris green, and some who have tried it think it equal to three or four pounds.

In using this preparation for poisoning foliage or fruit that may be eaten by insects, one pint is sufficient for a 50-gallon barrel of water. To this one gallon of lime water should be added. This will prevent the arsenic from injuring the foliage, and also show where the spray has been abundantly applied.

SPRAYING FOR CODLIN MOTH.

If spraying for the codlin moth is not done early in the season there is little or no use to do it at all. The best of all times is just after the petals have fallen from the apple and pear trees. Then the calyx is in an upright position and the arsenical poison can easily be dropped into it. As the young fruit begins to grow, the calyx closes, and the weight naturally turns it downward. Then it is about impossible for the poison to be forced inside the calyx, which is about the best of all places to be fatal to the little larva. The first brood comes from eggs laid almost anywhere on the fruit, but soon after they hatch the little larvæ soon find their way into the calyx and there get some of the poison with the tender skin of the fruit upon which they first feed.

The second brood of codlin moth is much more difficult to destroy, for the larvæ eat their way into the apples and pears almost anywhere, and the poison is soon washed off, so that the chances of killing them are much less than those of the first brood. One thorough spraying just after blossoming time is about all that will be efficient.

THINNING FRUIT.

Strange as it may seem, there are very few of the most intelligent fruit growers who will thin their most heavily laden trees or vines, and these few are, in nearly every case, commercial growers. They do it in order to save their trees from the injuries resulting from overloading, and to produce large, beautiful, and delicious fruits, that will bring a good price in the markets.

Those who grow fruit for their home use should certainly have as good, if not better than the best that goes to market. The small amateur, who has but a few trees and vines, can well afford the little trouble required to

thin the fruit on them. Indeed, it ought to be, and would be to some, a pleasure to do the work.

It should be understood that there is nothing lost by pulling off one-half or three-fourths of a big crop of peaches, apples, pears, plums, or grapes. It may look like waste, but the part left on will grow to almost the same weight that the whole amount would have attained, and it will be so much larger and better in quality, that it will be worth much more than all. The mistake which nearly all make at the beginning, who thin the fruit on their trees is not doing enough of it. They think that there is great danger of getting off too much. Peaches, apples, and pears should be not less than six inches apart. Plums should be about half that distance. Two bunches of grapes to each shoot are thought to be enough. Such fruit as may be grown in in this way is a delight to see and eat, while the small stuff that is grown on a crowded tree or vine is often of little value.

The time to do the thinning is usually in June or the early part of July in the northern States, and correspondingly early further south. Apples, pears, and peaches, should be about an inch in diameter.

The cost of thinning is slight, when the fact is taken into account that it is easier to hastily pull off and let drop the part that is thus removed, than to carefully gather it when mature, should it have been left on so long. Let there be some faithful tests of this system, although they be but small ones.

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A FEW FACTS CONCERNING THE PEACH BORER.

The female deposits her eggs in May, June and July some years earlier or later, according to the season. The eggs are chocolate colored, oval shaped, and can be seen with the naked eye. They are deposited at the base of the tree or a few inches above, often in a crevice of the bark; in about a month from this time the larvæ leaves the egg. They grow rapidly. I have seen them in July one-quarter of an inch long, and by September almost full grown. As the grubs grow they burrow toward the roots. In the spring they ascend again and go into the chrysalis state, and by May or June the fly appears.

TREATMENT. The first thing to do is to prevent the flies depositing their eggs on the trees. To do this I find nothing better than

paper. I generally use newspapers, and find they answer the purpose and are not expensive. One paper is sufficient for one large tree or two small ones. The paper should be put on in April, when the heavy rains are over.

Remove the soil from the base of the tree six inches deep. Roll the paper around the tree, not wrapping too tightly, especially on young trees. Tie with twine and fill up the hole. This will also protect your trees from sunburn and flathead borer. If they are put on carefully they will last for two seasons, or they may be taken off in October and replaced in the spring.

Another method we have used with considerable success is boiling hot whitewash, applied in July and August, to destroy the eggs. In order to whitewash the tree close to the ground it will be necessary to dig away some of the soil. It is useless to put on any preparation, if you leave an inch or so exposed at the base of the tree.—*C. E. Burns, in Pacific Rural Press.*

* *

GREEN ARSENOID.

This substance is recommended by many of the best entomologists, horticulturists and practical fruit-growers as superior to Paris green as an insecticide, to be used in the same manner, either dry or in water. It is claimed to be a purer article than Paris green and without the harmful ingredients of the latter. It is also a finer powder, not crystalline, and does not speedily settle in water, but remains in suspension a long time, thereby giving a mixture of uniform strength, and one that is more effective than Paris green. It has been heretofore sold as Green Arsenite, but the manufacturers have changed the name to Green Arsenoid, under which name only it will hereafter be sold. It is put up in different sizes of paper boxes, from a quarter of a pound to five pounds, and in twenty-five-pound kits to 100-pound kegs.

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COPPER SULPHATE for San José scale was reported as an effective remedy by W. L. Merwin, of New Haven, to the recent meeting of the Connecticut Pomological Society. He had some Japanese plum trees badly infested with scale and sprayed them a year ago in February with copper sulphate, using ten pounds to fifty gallons of water. Two more applications were made before the leaves started, with the result that most of the scale was cleaned off and the trees saved.—*American Agriculturist.*

ESSAY ON VEGETABLE GROWING.

Read before the Tarrytown Horticultural Society by L. A. Martin.

Vegetable growing has greatly improved in this country in the last ten or fifteen years, and now-a-days a gardener must be proficient to grow vegetables indoors just as well as out of doors, and even without greenhouses, but with cold-frames and hot-beds we ought to do our best to have something fresh, or at least try to prolong the season in this line. Nothing is more wholesome or agreeable to the palate than a fine dish of cauliflower, beans, tomatoes, and other vegetables in the middle of the winter season. True they can be purchased, coming from commercial growers or the south, but they do not taste the same as from one's own place. I shall not speak about the forcing of vegetables in this essay.

Any gardener wishing success with vegetables must do some thinking and figuring, not at the time of starting in spring, but years ahead; he should not be without a notebook in which to make a diary of all the work done in the garden and greenhouses during the year, dates of sowing his seeds, condition of soil and weather at the time. He must watch his plants' growth, as some kinds of plants will always be seen growing better in one place than in others. You very well know that the soil in your garden is not the same all over. There is always some spot richer in substances than others, wet or dryer; if you note the same, next year you can plant some other vegetables more suitable for such conditions of soil; particularly note what kinds of crops are grown this season so as not to plant the same kind year after year in the same ground, such kinds as onions, lima beans, and a few others excepted, but be very particular about cauliflower and cabbages, or else the maggots or club roots may prove unusually bad. More than one kind of the same variety of vegetables is always planted, therefore note what kinds grow the best with you and stick to it; understanding the right treatment of one kind and how to grow it well, is better than to have several others that may prove worthless to you in the end.

Remember that you cannot trust everything to memory, and that you are apt to forget what you wish to keep. Notes taken at the right time will be very useful to you in the future; I have now in my desk the records of several years, and I have been glad more than once during each season to consult them. They are always a great help to me. I know that there are many gardeners who would not take this trouble, but, brothers of the craft, let me say right here, that it would be better for you to do it; try it for one season and you will be well pleased with the results.

About January the seed catalogues are coming in, and it will be a great help to you to have all your plans well defined before starting time. Take a look at your last year's list of vegetables, you may want to make some changes. Get some novelties and give them a fair trial, but do not discard the old varieties before you have something better. Send your seed list as soon as ready; the seedsmen are glad to get them early so as to avoid the rush.

In speaking of seedsmen, I would like to say a word in their favor; generally when seeds do not come up you will blame them for it, and say that the seeds are worthless; it may be true in some cases, but many times the fault will be yours. A little thought and knowledge is all we need. You know very well that seeds differ greatly in size; thus if small seeds are sown deeply the young sprouts cannot reach the surface of the ground, and no matter how good the seeds, they will fail. Sometimes heavy rains pack the surface of the ground and the sun will bake it to a hard crust, so that it is impossible for the young seedling to come through. Too early sowing is another cause. Many kinds of seeds will germinate in a very low temperature, but many others of a tropical origin will decay in the ground. Still another cause is that, in summer, particularly in dry weather, it is almost impossible to get seeds to come up. A very simple remedy for this is to open your drills in the evening, give a good soaking of water, then sow the seeds next morning. Seeds are also liable to

damage caused by insects both above and below ground.

Now to secure good vegetables and plenty of them, the garden must be well situated; for my choice, it must face south or southeast if possible, and a sandy loam is preferred to any other. It should be naturally drained and free from surface water. There must be an abundant supply of good stable manure every spring, and if this runs short, a good brand of commercial fertilizer will be required. I am using the last named exclusively on corn and potatoes with good success. For early crops select a sheltered situation, that is if possible, supplied with well decayed vegetable matter; for this purpose, in combination with well rotted manure, I gather and put into heaps all cleanings of weeds and all fallen leaves, and these make a fine soil. The heap must be turned over two or three times during the year. In manuring the garden in spring also remember that some plants require more manure in proportion than others.

Now I suppose everything is ready to start, our garden has been manured, ploughed or spaded, well pulverized with harrow or rake, the flower border, if any, put in shape, and the sod border trimmed. Try some of the following for edging; parsley, chives, thyme, and marjoram. As every garden has been laid out to suit the owner's taste, I shall not say which is the best way, but plant everything in drills or straight lines; it is easier to cultivate. At this time do some thinking and make up your mind where you will have your early, fall, and permanent crops. Plant your early crops so that they will be off the ground to make room for your fall crops, and you want a special patch for the crops that will occupy the ground all summer; such things as lettuce, radishes, and spinach, I usually plant between rows of other crops.

If vegetables are worth growing they are worth taking care of, so cultivate frequently and kill the weeds. Do not wait until they get the best of you, or it will be a hard job to eradicate and kill them. It is far better and easier to destroy them when they are small, and for this purpose use freely the hoe and a short tooth rake. A hand cultivator makes a very fine job and saves labor, and where the size of the garden will allow it, plant your rows accordingly and run a horse cultivator.

The following is a list of the principal vegetables with remarks upon their cultivation. I have named only well tried varieties that I have been growing myself, and I am sure they will give satisfaction to any one, but some kinds of vegetables may grow very well in one locality, and be very poor in another, and there are no varieties equally good in every place, so it is for each one to select the best kinds and those that prove the most successful with him.

LIST OF VEGETABLES FOR PRIVATE GARDENS, WITH REMARKS ON THEIR CULTIVATION.

STRING BEANS—*Ne-plus-ultra*, *Red Valentine*, and *Refugee*. Sow *Ne-plus-ultra* in hot bed in the early part of March or sooner, but cover well at night to keep out frost. Sow outside about April 15th, if weather is favorable, then every two weeks until September. The last sowing should be made in a sheltered situation, and upon the approaching cold weather I build a temporary frame around it and cover with sashes or cloth at night, and in this way you can pick beans until November.

WAX BEANS—*Stringless Refugee* and *Improved Golden Wax*. Sow in April then every two weeks in succession.

POLE LIMA—*Challenger* and *Large White*. Sow in hills three to four feet apart about the 20th of May, and for the last few years I have with great advantage, practiced as follows: about three weeks before planting time I sow the seeds in two and one-half inch flower pots, or in flats, in a hotbed or greenhouse. Select a cloudy day or evening for planting, and set two of those started beans to each hill, then sow two or three more seeds at equal distances around the pole, thin out to three or four plants if desired. Transplanted beans root quickly if the ground is in good

condition. It is sometimes very hard for Lima beans to come up in spring if the weather is cold and wet. Better wait a few days longer if necessary before planting.

DWARF LIMA—*Henderson* and *Burpee Bush*. Sow Henderson at the same time as string beans, but with the Burpee I generally make three sowings, in May, June, and July, the last sowing to be treated as advised for string beans. Sow in drills and hill them up the same as you would potatoes, but not quite so high. This keeps the pods from lying on the ground and rotting. The Dwarf Lima is invaluable and indispensable in every private garden, and is coming more into popularity every year. It fills a gap between peas and the pole Lima, as it comes in bearing about three weeks before the last named.

BEETS—*Crosby's Egyptian*, *Blood Turnip*, and *Long Blood Red*. Sow in hot-bed in early March and outside in April, then every three weeks up to July, so as always to have some tender beets. There is very little difference in the earliness in varieties. Sow often and a little at a time. For keeping over winter sow the beginning of August.

CARROTS—*Scarlet Horn* and *Danvers*. Sow Early Horn in hot-bed, in early March, and same kind in April outside. I prefer to make three or four sowings during the summer to have nice tender roots at all times. For winter supply, sow the latter part of July or beginning of August. In fall pull out and store in cellar, and cover over with earth or sand.

CUCUMBERS—*Improved White Spine* and *Evergreen*. Sow in pots in greenhouse latter part of February, transplant in hot-bed latter part of March among lettuce or radish. (This to save room.) Sow outside in May in hills which have been previously well manured. Sow again in August, in frames, for fall use, or sow outside, and build a temporary frame and cover with sashes when cold weather sets in.

CELERY—*Improved White Plume*, *Giant Paschal*, and *Fin de Siecle*. Sow for early, in flats in greenhouses or hot-beds, in early March, transplant when big enough to handle. Plant outside in April. These can be bleached with boards. Sow for main crop about the 20th of April. Celery seeds are very hard to come up, so before sowing beat the ground well with the back of the rake, cover lightly and press down with a board. A few hemlock branches or some shavings on top of seed bed, will keep the same from drying out too much. Keep well watered. In fall I bank my celery with soil, and cover with leaves, and this with manure to keep the leaves from blowing away.

CORN—*Early Minnesota*, *Crosby's*, *Stowell's Evergreen*, and *Country Gentleman*. Sow early kinds 10th of April. They may not come up, but run your chances; if they fail you can plant in same hill. For main crops sow the 25th of April, then every two weeks, or oftener, until the 15th of August. For succession I make a point to sow another crop as soon as the previous one appears above ground. In fall, on the approach of cold weather, pull the plants, roots and all, that are yet good for use, stand them up in shock; in this way they they will keep for a long time in condition.

EGG PLANT—*New York Spineless*. Sow in flats in greenhouse in February, transplant in small pots and keep on shifting into larger ones when needed. As this vegetable is very easily hurt by cold, do not plant outside before 1st of June. Give frequent hoeing all through the summer, and pick the fruit as soon as ripe.

LETTUCE—*Golden Queen*, *Big Boston*, *Thorburn's Maximum*, *White Summer Cabbage*, and *White Cos*. Sow in flats in greenhouse in February, and transplant in hot-beds in March, and from that time on sow a few seeds every two weeks in succession, using hot-beds until the weather is favorable to sow outside. In summer it is very hard to get lettuce to head, but last season Thorburn's Maximum and White Summer Cabbage did very well with me. I had a specially prepared patch on the north side of a fence conveniently situated for watering, and with

plenty of cultivation, we had very good success. I never transplant lettuce in summer, if I can help it, but sow thinly and thin out the plants, or sow a few seeds every ten inches and thin out to one plant. In fall plant again in frames and hot-bed.

MUSK MELON—*Nutmeg* and *Hackensack*. Sow in May, in hills which have been previously well manured. Sow thickly, because cut-worms will destroy some of the plants. Thin out to three or four. Against the damage of cut-worms we use a band of tarred paper six inches wide, and set it in the ground three inches, and sow the seeds in the middle. A pane of glass can be laid over this until the plants come up.

OKRA—*White Velvet*. Make two sowings, one in May, and one in July. Sow in drills, and thin out to sixteen inches apart; pick when quite young. They get stringy with age. They can also be sown in pots, in greenhouse or hot-bed, and transplant out in May.

PARSNIPS—*Long White*. Sow in April, in well dug and previously manured ground. In fall pull and store in cellar, and cover with earth or leave in the ground, but when left out they are not easy to dig for use in winter.

PARSLEY—*Moss Curled*. Sow in April outside, and in August in flats to transplant in frames or vegetable house for winter use, or pull some old plants and transplant in fall.

PEAS—*Early Market*, *First of All*, *Nott's Excelsior*, *Abundance*, *Heroine*, and *Champion of England*. Sow soon as ground is in condition in spring, and then every two weeks thereafter for succession, or as soon as one sowing appears above ground, put in another until the first of June. Sow round peas only for the first two sowings, then wrinkled, as they are of better quality. Sow again, early kinds, the 1st and 15th of August for fall use, in well enriched ground, and give plenty of cultivation. For tall peas use brush or trellis.

PEPPERS—*Ruby King* and *Bull Nose*. Sow in February, in flats, in greenhouse or hot-beds, transplant three inches apart in other flats, and plant outside in May. Keep well cultivated, and pick soon as ripe. In fall pull the plants, roots and all, and hang in well ventilated cellar. They will keep in condition for a long time.

RADISHES—*Scarlet White Tipped*, *Russian Scarlet*, *California White*. Sow in hot-bed, in February and March, then outside in April, and then every twelve days for succession. After June select a cool spot in your garden partially shaded during the day. Sow in early fall, varieties for winter use, and finish the season with frames and hot-bed.

SPINACH—*Victoria*, *New Zealand*, and *Long Standing*. Sow in early spring, then every two weeks in every spare piece of ground. For summer I sow New Zealand in the latter part of June. It stands the heat and drouth well and lasts the season. Put in sowing for winter about September 10th, in a sheltered place.

SWISS CHARD OR SILVER BEET—A very good vegetable for use instead of spinach, in the middle of summer. Sow in April, thin out to six inches apart; keeping well cultivated will increase the delicacy of the leaves.

TOMATOES—*Early Ruby*, *Atlantic Prize*, *Crimson Cushion*, and *Livingston*. Sow in flats, in March, in hot-bed or greenhouse, transplant in flats or frames, and set out in May. For very early, sow Early Ruby in February, and transplant in pots, and shift into larger ones when needed. Plant out in early May, in a warm situation. Provide some supports for the vines, and keep laterals and surplus growth trimmed. Upon the approach of frost in fall, pull all the largest fruits and store in a cool dry place, and they will ripen and keep in condition for a long time.

TURNIPS—*Early Milan*, *Snowball* and *Yellowstone*. Sow in early spring, then every two weeks for succession, but a little at a time, as they soon get wormy and soggy. For winter supply sow in August, in fall pull out and store in cellar and cover with earth or sand.

To be continued.

BUD, BLOOM & SEED POD.

*Nearer to the river's trembling edge
There grew broad flag flowers, purple, pranked with white,
And starry river-buds among the sedge,
And floating water lilies, broad and bright.*

—Shelley.

Mass the colors.

Try some new annuals.

Fine soil, quick growth.

The knife for black knot.

Do you manure the vines?

It pays to treat currants right.

Sow seeds freely, some may not grow.

If you water at all be liberal about it.

Once a garden lover always a garden lover.

Cherry trees cannot endure wet feet—that is water.

We advise a patch of wild ferns in some rich, shady spot.

Of all vegetables, never let weeds get the start of young carrots.

Now we stand and admire the floriferous Japan quince as a hedge plant.

With some protection figs are grown successfully as far north as Niagara Falls.

German gardeners, it is said, prevent "bleeding" of grape vines by searing the ends of the shoots with a red-hot iron.

If your garden is wet because you haven't put it in complete shape as regards under-draining, sow or plant in ridges.

Arbor day teaches, for one thing, that it is better to plant and care for a tree than to destroy it. A much needed lesson.

It is surprising how rapidly plants from outdoor-sown tomato seed go to fruitage. We recall a certain gentleman, who insisted that nothing was gained by bringing the plants along in a hot-bed.

In the best flower cultivation a narrow rake is used in place of a hoe for keeping weeds down. That is, the surface is so frequently stirred as to give the weed no chance. Rake tillage is delightful. It not only tends to good appearance of the beds, but it permits plant growth and also soil moisture, by preventing rapid evaporation.

Keeping asparagus fresh. Growers of this delicious vegetable who have occasion to keep some cuttings over for several days, should take a hint from florists in keeping their flowers. Set the stalks in water which is changed every twelve hours. If kept long,

or if sent to market, cut off a bit of the lower end of each stalk with a sharp knife. That is a trick of the florist. Both flowers and asparagus may be kept longer and will look better for this treatment.

Lime wash is a good thing on tree barks to destroy insect larvæ, also for buildings, fences, etc. The best way to apply it is with a sprayer instead of with a brush. As for effect, it is more agreeable to the eye if some lamp black is added giving it a leaden hue, or some ochre for yellowish tint.

A wild garden, made, not by sowing the seeds of a mixture of unknown plants and weeds, but by transferring some of the earlier wild plants and flowers of the woods to a certain part of the writer's garden, has been one of the most charming of spots. The collection includes trilliums or wake robins in variety, hepaticas, blood-root, violets, orchids, many brakes and ferns, and numerous others. A good feature of the plants of this class is that they thrive in half-shaded and shaded places, concerning which we find so much complaint, because few cultivated plants will grow in these spots. These wild growths give delight such as few things among the regular garden flowers can excel.

The life of the average soil tiller is one constant struggle against almost countless insect pests, says a recent complainer. Let that reading be changed a little, thus; the life of the average business man is one constant struggle against almost countless obstacles. We get quite tired of hearing this everlasting grumbling about the farmer's and gardener's many obstacles, in view of some observations to the effect that the meeting of obstacles is the common lot of humanity in all lines. The fact is the ruralist of the past has taken life entirely too easy, so far as mixing brain labor with manual labor is concerned. He has had an incomparably easier time than the merchant, manufacturer, or teacher. Had he toiled with brain and muscle as hard as they, perhaps his success would have been greater. If, because of insects and other opponents

he is driven to combine more study and mental labor with his work, he in the long run will be the gainer.

DESTROYING SPROUTS AND THINGS.

A correspondent of *Coleman's Rural World* tells how he cleaned land completely of sassafras sprouts, which, as many know, are very persistent. He seeded it to timothy and clover, having at the same time cut all sprouts below the surface. At mowing time in July, the sprouts were again cut below the surface, and that ended the sassafras trouble. This reminds us of an experience we once had in ridding some land of Canada thistles. The spot was to be devoted to lawn, and the question arose whether the thistles would not prove a nuisance. They never did. By seeding with red top and blue grass mixed, at the rate of four bushels to the acre, and then going over the patch frequently with a lawn mower, the thistles never gave the slightest trouble, and after the first season not one was left.

E. A. LONG.

* *

PETALS.

There is a snow-storm of snowballs in the air. What a wealth of shrub-bloom we have in May.

The currants are our first fragrant-flowering shrubs.

It takes warm May sunshine to melt open the spice-boxes of the lilacs.

Well trained shrubs do not need much pruning. We prune ours by giving away quantities of the long-stemmed flowers.

We do not half appreciate the Tartarian red and white bush-honeysuckle. They are lovely, old-fashioned, and fragrant enough to have a revival now.

The spiræas are too many for me. I get hopelessly bewildered in their maze of varieties and names. Oh for the cherished "coming" (?) model label!

May is a good month in which to visit your favorite nurseryman. No printed description can help so much about selection as seeing the shrubs in bloom.

The Mollis, Ghent, and native azaleas are in all their glory this month. A bed of them with rhododendrons and tall native lilies, is rich and bright with foliage and flowers for months together.

Instead of leaving such tender tropical plants as rubber plants and palms to stand miserable and shivering as decorative factors

of vestibules and hallways all winter, why does not the wise amateur select now some hardy young evergreen and grow it for such winter uses instead. The dwarf pines, pyramidal yews, junipers, and arbor vitæ, are all fine for this purpose.

The gathering and shipping of galax leaves has become quite an industry among Carolina mountains. Picking usually begins early in September; but the leaves cannot usually be shipped safely by freight until later. The leaves are not bronzed and crimsoned by frost until about the middle of November, and these bright-colored leaves sell better than the plain green ones. The selling price is about 25 cents per thousand, so that the pickers are not likely to become rich. The plant is a native of cold, damp hillsides, and during April and May produces pretty, wand-like racemes of feathery pure white flowers, while the bronze, green, and crimson leaves of winter glisten in a whorl about it.

Some of us found out several years ago, that it was not necessary to lug great tubs of half-tender shrubs down into the cellar every winter, here in North Carolina. Instead of that, we pull them to the nearest thick clump of rhododendrons, firs, or spruces, and thrust the tubs in under the dense evergreen branches. Here the cape jasmines, hydrangeas, and oleanders lose their leaves of course, and sometimes are killed quite down to the root, but quick-growing shrubs like the oleander, soon regain their height, sprouting up from the root in thick shoots, and giving more and larger flowers than those wintered indoors. We are always sorry when the hydrangea and jasmine lose their tops, for they grow more slowly, but this happens only once in a while. Has anyone tried wintering agapanthus in this same way?

L. GREENLEE.

* *

TO KEEP FLOWERS AND CUTTINGS FRESH.

—Flowers, leaves, cuttings, slips, rooted or not, anything that will go into a fruit can, may be preserved and carried thus very nicely. Put a little water in the can, drop in the plants, screw down the cover, and the most delicate woodland flower will keep perfectly fresh and bright through the longest and hottest day, and much longer; I do not know how long. When you go out to look up wild-wood flowers or start out to exchange slips with a friend, a glass jar is what is needed to carry them in.

E. S. GILBERT.



NATURE STUDIES FOR YOUNG PEOPLE.

Go forth under the open sky and list to
Nature's teachings.

—Bryant.

MAY.

Every clod feels a stir of might,
An instinct within it that reaches and towers,
And, grasping blindly above it for light,
Climbs to a soul in grass and flowers.

—Lowell.



HERE shall we go this morning? To the meadows for blue flags and cowslips, to the woods for violets, and among the green shoots everywhere to observe our insect friends.

Remember that the Volunteers are banded together to protect our gifts. How shall we protect our wild flowers? Be careful of the roots. If you went into your garden to pick flowers, how would you do it? Very carefully, of course. You would take a pair of scissors so as to cut the stems without injury to the plants. Treat wild flowers as carefully.

On our first May ramble we shall find violets, white, yellow and blue. There are many kinds, nearly twenty varieties in our States. Some of them increase by root-stocks and some by seeds borne underground, or in inconspicuous flowers hidden below the leaves, the lovely blossoms of spring often not being fruited. It is well to know the parts into which the flower is divided, and I hope each Volunteer will get a flower of apple, cherry or blackberry and learn the parts as they are shown in the illustrations on this page.

THE CALYX. This is a cup, generally green, and is the covering of the bud and may be found under the corolla after the flower is open. *Sepals*, divisions or parts of the calyx.

THE COROLLA. This is the crown, the bright colored leaves or tube held by the calyx. *Petals* are the parts of the corolla.

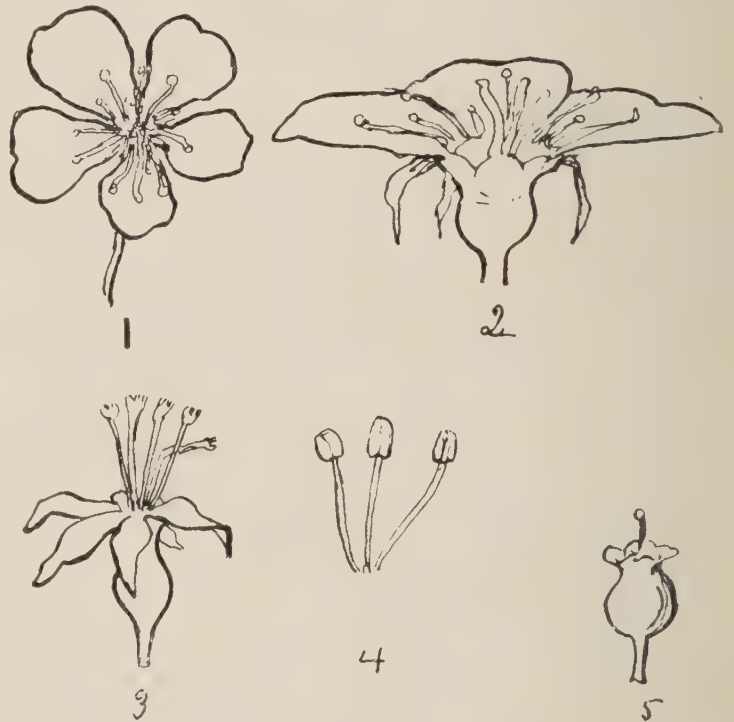
PISTIL. This is a most important part of each flower, as at its base the seeds are formed and held; it is usually in the center. The *Stigma* is the uppermost part of the pistil, usually appearing as a knob, or divided into two or more parts.

STAMENS. These are slender stems, varying in number, surrounding the pistil, and bearing

at their summit bags or sacs called *anthers*, containing *pollen*.

Many flowers, like the dandelion, daisy, and aster, are *Compositæ*. What does this mean?

Did you ever notice that dandelions go to sleep at night and all the gold is put out of sight and held snug by the green arms of the involucre? You see I do not call this green shield "calyx"; why? These same green arms close around the flowers in a rain, also. If the dandelion grows where the soil is rich and moist, the coarse toothed leaves grow long and upward. If it chooses a barren, dry



1—FLOWER, SHOWING COROLLA
2—FLOWER CUT IN HALF, SHOWING PISTIL, STAMENS,
PETALS AND SEPALS
3—PISTILS AND CALYX 4—STAMENS 5—YOUNG FRUIT

spot, the leaves spread out flat like a thick rosette, taking up all the room possible, so as to draw as much moisture, get as much light, and keep other plants from getting too near. See if you can find them growing in each way. This plant has a tap-root; do you know what this means?

What kind of a root has the beet?

Anyone of us can find the red clover. At a first glance you might think it belonged to the *Compositæ*, but if you pluck out one little

flower and study it well, you will notice how much it looks like the flower of the pea, and to the pea family it belongs. Bees are very necessary to clover; they carry pollen from flower to flower and cause the seed to set. It could not be successfully grown in Australia, as it did not form seed, but bees were imported and the difficulty was overcome. Did you ever find a clover-head with some of the flowers nipped off? A bumblebee does this; she bites off the top of the flower so as to get more easily at the abundant nectar. As you keep on with your study of nature and her works, you will read some wonderful books by a man named Charles R. Darwin. In one of them he says that the remote causes which affect animal and plant life are often not understood,—

that is why certain animals or plants should grow in certain places.

Who would consider cats necessary to clover? Listen how he tells the story: If we want to have seed from clover we must have bees to carry the pollen. Bees have a terrible enemy in field mice, that find them very good eating. Who will dispose of the field mice but the cat? So, plenty of cats plenty of clover.

Those Volunteers who live in the west and northwest may find at the end of this month some of the queer-looking flowers that come under the general head of Pitcher Plants. The curious leaves are often half full of water, and insects are drowned there.

Perhaps the Volunteers do not know how much pleasure may be had from a wild flower garden. If you have a shady spot on the north side of the house where nothing else will grow, dig it up well and bring from the woods as much rich, black loam as you can. Plant here your wild flowers. I always transplant my wild flowers in early spring, when they are budded, for then I am sure of the variety. If you take plenty of earth about the roots, and water well, they will not notice the change.

In this month there is the greatest activity in the insect world. Bees, beetles and butter-

flies hibernate in their perfect form. Our moths have come out from their silken homes, and some caterpillars, having wintered comfortably, go into the pupa state in the spring.

When the fruit trees are in bloom, many of our most beautiful butterflies appear,—the swallow-tail, comma, and many smaller ones. The turnip butterfly comes out at this time, too, and you will find the caterpillar of the *Vanessa interrogationis* and the *Grapta comma* feeding on the hop vine.

Look out also for the great Sphinx moths the last of May.

Do not forget to remind mother that this is the month when the clothes moth is flying about, looking for a cozy spot in woolen clothes or furs in which to place its eggs. It

is the little

larva that

hatches

from one of

these eggs that

does the damage.

The larva of the

Phaeton butterfly is

easily told; it is red

and black, and is often

found eating the tender

leaves of the goldenrod.

If captured and fed, we may watch it go through its changes, till it flutters out in July a perfect butterfly, still black and red, but now like velvet.

* *

PAPILIO TURNUS

SWALLOW-TAILED BUTTERFLY



HOT SHOT.

The first bird of the great spring army that we have heard of, comes from Tipton, Iowa. On February 23d, Mifflin S. Funk heard a pee-wee, though the day was very stormy.

* *

Ralph Dewey saw our constant little friend, the robin, March 1st, and we have heard that they were seen the first week in March in Ohio, New York State and Long Island, so we shall all welcome them soon.

* *

Glenn Dougall, of Nebraska, sends us a very nice letter, saying that he heard a meadow lark February 28th. He has been watching the crows all winter, and does not think they are cowardly, at least when they have a turkey's egg to eat. He has seen some crow's eggs, and says they were green with black

specks on them. Let us hear again, when you have watched the birds some more this spring.

* *

Lewis S. Gannett, Rochester, studied about birds last summer. He noticed that the large birds, like crows and hawks, kill the smaller ones, but he must remember that they destroy the small birds for their food. He says very truly that birds are not happy in a cage, even if they seem so; and I agree with him when he says that if boys would study more about birds, they would not shoot them or steal their eggs. Lewis is the president of a little club for the protection of birds. We should be glad if the members would become Volunteers.

* *

DEAR VOLUNTEERS—The description of the birds in the last MAGAZINE was so interesting that I hope a short account of the ones that visit us in the winter and spring will be as interesting to the other Volunteers.

The crows remained all winter and held concerts in the trees around our house every night and morning. I secured one of their last year's nests by chopping down a Douglas fir. They build a very odd nest of twigs, forming a triangular shape, lined with moss.

The woodpecker remained all winter, also.

There are little wrens here, all through the woods. I have found that they can run down the side of a tree as well as up, with the assistance of a little claw attached to the back of the foot.

There is another little bird, called the indigo, that flies in flocks over the prairies.

The snow-birds here are gray, with light gray breasts and black heads. They are seen in cold weather, but I do not know whether they are the same you have east or not.

There are some larks on the prairies, and on cold mornings their melodious song can be heard, and several times flocks of blackbirds passing overhead, stopped and sung in chorus on the trees.

There are several other birds that I cannot describe. Could you tell me whether the snow-birds here are the same you have east?

MOLLIE LECKENBY.

Wash.

The snow-birds Mollie Leckenby speaks of are the Juncos, or slate-colored snow-birds. Yes, we have them in the east. This winter, during March, and after a severe snow storm, we had in Rochester for several days, flocks of the snow-flake, or white snow-bird. They had not been seen here before in many years.

* *

We give an interesting letter for our Volunteers to puzzle over, and each must decide for himself how the question shall be answered:

WAS IT REASON?

Nearly sixty years ago a little boy might often have been seen sauntering through the fields and along the banks of the Irondequoit, amusing himself with the wild flowers,

and watching the interesting actions and habits of birds and animals. One day, ensconced behind a large bush, he was enabled to watch a large heron, or crane, standing in the creek, intent on capturing something for dinner. Slowly, like the gliding motion of a snake, the head and long neck descended toward the water, then, like a flash, a fish was caught and held struggling in the air. But one part of the long bill was driven through the fish, which could not be swallowed till the bill was withdrawn, when possibly the fish might escape into the water. The bird seemed to study the situation a moment, then walked out some distance from the water, and pushing the fish off with one foot, picked it up and swallowed it with great satisfaction. Then, stretching his long wings, he sailed away without informing the boy whether he had been guided by instinct, which does things right the first and every time, or by reason, which gathers wisdom from experience. The question still remains unanswered.

PITTS FORD.

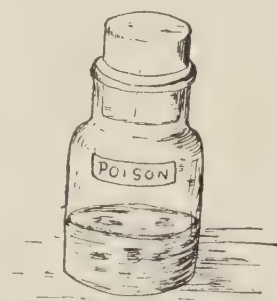
* *

Carrie Swearingen, of Colorado, one of our first Volunteers, writes as follows:

I am very anxious for summer to come, so I can have my flowers, and as I am a new resident of this State I am sure I can find any amount of curiosities, both in plant and mineral life. Last summer I saw a number of flowers (wild) that I never saw before. And cactus! Oh my, if all who are so crazy for cactus had seen as much of that plant as I have, they would not want to hear the name for a whole year. But cactus plants surely have beautiful flowers. I have not kept a note-book, but want to as soon as spring opens up.

* *

HOW TO PREPARE A COLLECTING BOTTLE FOR INSECTS.



CYANIDE BOTTLE

Any bottle of convenient size, with a large mouth, will do; one that has contained vaseline is very good. Put in the bottom a few bits of Cyanide of potash, and lay over them a little cotton, so they will not rattle about. Either put a little glue on the sides of the bottle so that the cotton will stick and hold the potash in place, or press down over it a piece of paper pricked with many small holes, so that the fumes from the potash will fill the bottle. Remember that this potash is a POISON, and must not be left about, and that the bottle must be kept tightly stoppered or it will soon lose its strength. Many facts remain to be learned about our common insects, and this is a great field open to discovery for our Volunteers.

Nannie Moore.



LETTER BOX.

Let me have audience for a word or two.
—Shakespeare.

Rose Hedge.

What kind of rose can you advise for a hedge in this locality?
J. L. T.

Calkinsville, Mich.

Madame Plantier is an excellent hardy variety and will make a good hedge.

* *

Bryophyllum.

Please tell me what the plant *Bryophyllum calycinum* is good for. Does it ever bloom?
A. W.

Marquette, Mich.

Bryophyllum is particularly interesting on account of its manner of reproduction from the leaves. It bears pendulous flowers, green tinged with purple.

* *

Gum on Leaves of Orange.

What causes the gummy substance on the leaves of the Otaheite orange, and what would you do for such a condition?
L. M.

St. Louis, Mo.

Probably scale insects. Wash the leaves with strong soap suds and carefully remove all scale insects, and afterwards keep the plant clean.

* *

Removing Leaves from Begonias.

Please let me know how old a Rex begonia must be before it can be slipped. So many want leaves off them, and sometimes it seem to kill them.
MR. J. S. T.

Fountain, Minn.

Do not mutilate your plants by taking off the leaves. The young plants can be bought at a price so low, that anyone who wants them can get them of dealers.

* *

Wax Plant.—Pinks.—Scarlet Runner Bean.

My Wax plant, *Hoya*, has whitish patches on the leaves. Please find a leaf enclosed. Can you tell me the cause and remedy?
MRS. H. S. C.

Penn, Mich.

The leaf of wax plant received had silvery-white streaks and patches of some substance in very thin layers on the upper side, and a thickish layer of the same substance on the leaf stem; these layers could be removed. The leaf was sent to our State Entomologist for examination. The following is his reply:

The leaf enclosed of *Hoya* or wax plant has been examined by both Professor Peck, State Botanist, and myself. I fail to find any indications of insect injury, and Professor Peck is at a loss to account for the trouble. I am sorry we can afford no more help in the present instance.

Albany, N. Y.,

February, 4, 1900.

E. P. FELT,

State Entomologist.

The case is an interesting one, and we advise our enquirer to make careful investigation in regard to it. Certain leaves should be

selected and marked, perhaps with narrow paper tags, and numbered, and every few days make careful observations and record them, and thus learn whether the markings increase. Such careful observance may in time lead to some definite knowledge of the cause of the phenomenon.

Our correspondent asks about old fashioned garden pinks, wishing to know where they can be procured. Enquire of gardeners for hardy garden pinks.

Scarlet runner is the name of the flowering bean inquired about.

* *

Carnation.—Cineraria.—Rhododendron.

When should I plant carnation and cineraria seed in order to have the plants in good blooming condition for next winter?

Can I move rhododendrons from the woods to the yard? If so, when can it be done?
MRS. S. H.

Brownsburg, Va.

Carnation seed sown in spring or summer may give good blooming plants the following spring or summer. The better way is to purchase young plants of carnation in spring and plant them out in the garden. In September lift and pot them and place in cold frame or in the greenhouse.

Cineraria seeds may be sown any time during August to produce winter blooming plants.

Wild rhododendron plants should be moved in the spring before new growth starts.

* *

"Under which King, Bezonian?"

VICK vs. VICK.—Sweet Peas.

Use plenty of seed, so that they will not be more than an inch apart.—From *Vick's Garden and Floral Guide*, Golden Wedding Edition, 1899.

Thin sowing, by which is meant planting the seeds from four to six inches apart, is conducive to vigor and strength of the plants which come later into bloom, but continue much longer than the plants from thick seeding.—From *Vick's Magazine*, October, 1899.

F. W. L.

It was an undisputed custom some year since to plant sweet peas closely—an inch apart, as mentioned above—and the result was satisfactory, and the plants bloomed early. Since the cultivation of this plant has had a great impetus in recent years, and everybody has tried his hand with it, and in all sorts of ways and places, it has been found that wide seeding gives stronger plants and better flowers, but the bloom is somewhat delayed. With these facts in mind one can govern the planting to suit his wishes.



EDITOR'S NOTES



Brevity the Soul of Wit.

We are obliged to return a considerable amount of correspondence containing good ideas, and that might be useful if published, but for which space cannot be allowed. A whole page, perhaps, is occupied in telling what might be conveyed in a dozen words. It may be good literature, but much as this is to be desired, the exigencies of the case demand brevity. Without ignoring the literary aspect of horticultural writing, that which is most brief and direct, having a point and making it sharp, will be the most acceptable for our pages.

* *

Horticultural History.

The Wisconsin State Horticultural Society is making preparations and collecting material to publish a history of horticulture in that State. B. S. Hoxie, of Evansville, Wis., and Professor E. S. Goff, of Madison, Wis., constitute the historical committee.

* *

The Peach Crop.

The prospect for a crop of peaches this season is said to be very poor in Missouri, Kansas, and Arkansas. In Georgia there has been no particular injury done by the cold, and the prospect for a large production of fruit is very favorable. The reports from Michigan orchards are variable. In some localities the buds are said to be nearly all destroyed, and in others a small percentage injured, and in others nine-tenths of all the buds are uninjured. These are conditions reported the latter part of March.

* *

American Rose Society.

The first exhibition by this Society made the latter part of March, appears to have been fully satisfactory both to exhibitors and visitors, and even to have exceeded expectations. There were two difficulties experienced which it is to be hoped will not be encountered again—first, there was not sufficient room. The crowding of the exhibits made it impossible to display them to the best advantage; and second, the staging was too high, placing flowers where, for the most part, they could be seen only from the under side, a line of view very undesirable, and detracting greatly from the beauty of the scene.

These defects are of a character that could scarcely have been known beforehand, and the officers of the Society are entitled to great credit for the ability and energy displayed in organizing this, their first show. The decisions of the judges in awarding the prizes, appear to have given general satisfaction.

* *

The Farmstead.

The Farmstead, The Making of the Rural Home and the Lay-out of the Farm, by Isaac Phillips Roberts, Director of the College of Agriculture, and Professor of Agriculture in Cornell University. Published by The Macmillan Company, New York. Price \$1.50.

The pure and healthy delights of country life are portrayed in such an interesting and convincing way in the above named book, it would seem that one just starting in life could not do better than to buy a farm. Having bought the farm, "The Farmstead" will tell just the best location for the house and how to build it, from the frame and foundation to the inside heating and ventilation. Several chapters are devoted to house furnishing and decoration, sanitation, water supply, sewage, etc. Hints

are also given by which old houses can be greatly improved by making slight additions and some minor changes, thus saving from destruction many old homesteads around which "sacred associations cluster".

Planning the various buildings necessary on the farm is also taken up, and includes a discussion of barns, building a barn, remodeling old barns, and the location of other outbuildings and accessories, such as poultry houses, piggeries, and the silo. The layout of the fields, orchards and gardens is also considered.

The illustrations are numerous and all are good and practical, many of them showing the right and wrong way of doing things; pictures of appropriate and home-like farm houses and their opposites; houses which are homes and those which by their location, lack of attractive surroundings, or utter unsuitability, do not deserve to be honored with that name.

"The Farmstead" is so complete, so admirable in tone, so replete with new but practical ideas, so unmistakably written by one who loves the country and country-life, that every farmer and farmer's wife can but be benefited by the reading.

F. B.

* *

Two Twentieth Century Botany Books.

Two of the brightest "botany books" that I have seen in a long time are "Plant Relations" and "Plant Structure," by Professor John Merle Coulter, head of the Department of Botany in Chicago University. They are among the first in a series of "Twentieth Century Text Books," now being issued by a New York house, and if all in the series are like this the teachers of today are certainly fortunate.

"Plants should always be thought of as living and at work," says Professor Coulter, and by thinking and writing of them in this way all through his book on plant relations, he keeps up a real and growing interest quite to the last page.

A six months study of this "first-book of botany" will give any one a fair idea of plant relations, which, as Professor Coulter says, is more important to those who can go no further with the study than a knowledge of plant structures, as set forth in his "second book" would be.

Remembering Professor Coulter as a teacher of my gosling school-girl days, I can see, too, how his genius for beguiling his pupils into a genuine love for botany suggested this placing of ecology before morphology. He puts the more interesting phases of plant life, those that the casual observer not yet enthused with botany, most likely to be attracted by,—first,—thus giving him his pie first, that he may the more willingly take the pill of structural botany which follows.

Professor Coulter thinks that plants live as truly and much in the same way, so far as living is concerned, as animals. This he points out in the leaf, root, stem and flower relations of plants, the way the leaves adjust themselves to the light, so that all may get a share, the turning of tiny seedling roots into the earth, no matter how the seeds may have been sown; the grip of the little strawberry runner upon fresh soil, and its tug upon the parent plant as it settles comfortably down in a home of its own, and other instances of this sort all through the book.

The chapter on "The Struggle for Existence" is full of migrations, wanderings, triumphs, and tragedies most interesting to follow. The last five chapters are given to plant colonies and societies, and the ecological factors that bind them together.

"Plant Structures," the second book of botany, as treated by Professor Coulter, is also more interesting than any book of its kind that I have read. Professor Coulter has the rare quality of imparting his own enthusiasm to pupils or readers, and his style all through both books is characteristically clear, direct, and simple.

The illustrations of both volumes are exquisite in many cases, and have a rare teaching quality, quite unlike botanical pictures of the olden time.

L. GREENLEE.

WE ARE pleased to note that interest in the adornment of home grounds, particularly back yards, is increasing. Neighborhood coöperation works wonders, and, as Mr. Shuey, the author of the article on page 227, says "The entire scheme (as outlined in said article) is practicable in any community. It is easily adopted and applied, requiring only interest and determination on the part of a few of those who are anxious to see it a success."

The leaven is spreading to the schools, also, and in Carthage, Mo., Prof. W. J. Stevens offers the pupils of the public schools \$63.00 in cash premiums, as follows:

Vine Planting—For the most artistic planting, arrangement and training of vines on house, veranda, out-buildings, fences or posts:

First prize, \$10.00	Second prize, \$5.00
Third prize, 3.00	Fourth prize, 2.00
Fifth prize, \$1.00	

Raising Flowers—For the best flower garden of China asters not to exceed fifty square feet in area:

First prize, \$10.00	Second prize, \$5.00
Third prize, 3.00	Fourth prize, 2.00
Fifth prize, \$1.00	

Boys' Vegetable Garden—For the best vegetable garden on an area not to exceed two square rods. Care of grounds, quality and quantity of product and attention to duty to be considered:

First prize, \$10.00	Second prize, \$5.00
Third prize, 4.00	Fourth prize, 2.00
Fifth prize, \$1.00	

Here, in Rochester, the Women's Educational and Industrial Union is planning to adorn the school grounds, particularly those where the vacation schools are to be held.

A NEW NAME FOR INDIAN CORN.

A reader of the *Washington Post* tells a pretty story of an Englishman's new name for corn:

An Englishman and his wife sat near me in a café on the avenue the day before yesterday. I knew they were English as soon as I saw his coat and hair. Even if I had not seen these two unmistakably English things, I should have guessed their nationality from a name they gave to an American dish. The man was ordering luncheon.

"I don't see it on the bill of fare," he said to the waiter, "but bring me some flute corn if you have it."

"Flute corn?" repeated the waiter, in surprise.

"Yes," said the Englishman, "flute corn."

The waiter still hesitated.

"Why," went on the Englishman, "don't you have it? The sort of corn, you know, that one eats like playing a flute."

And as a delicate euphemism for corn on the cob, I think "flute corn" can hardly be surpassed.

SWEET CORN.

The difference in the cultivation of sweet corn in this country and in foreign lands is emphasized by the following paragraph, copied from the catalogue of one of the largest seed-growers in England:

MAIZE AND SUGAR CORN.

In the United States, Sugar Corn is very largely cultivated for culinary purposes, and as a vegetable it certainly deserves to become popular in this country. The cobs are gathered green before the seeds become hard, and when boiled and served with melted butter the flavour is delicious. Prepare a deep, rich soil, in a sunny and sheltered situation. Late in April or early in May dibble the seeds four or five inches deep, in rows three feet asunder and one foot apart in the row. When the plants have made some progress, remove every other one, these thinnings to be destroyed or planted at discretion. The crop will almost take care of itself when the weather is warm enough to suit it. But a deluge of water may be given during the hottest weather.

AMONG THE CATALOGUES.

The DeLavel Separator Company, 74 Cortland street, New York, have a neat catalogue of forty pages. An attractive picture of "A Model Dairy Farm" adorns the cover.

The Garden Calender of Henry A. Dreer, Philadelphia, Pa., for 1900, has nearly 200 pages filled with the most desirable varieties of flowers and vegetables. The department of hardy perennials is especially complete. The covers have very attractive designs of pansies and single dahlias.

The Toledo Cooker Company, Toledo, Ohio, send out an illustrated catalogue showing a money and labor-saving device called the "Ideal Steam Cooker." This cooker is in four sections, so that all the dishes of a meal can be cooked together without a mingling of odors, and one hole on a cook stove, or a single burner on a gasoline, gas, or oil stove is all that is required.

Hardy Stock for Pleasure Grounds is a unique catalogue, a dainty and original booklet, sent out by Hiram T. Jones, of Elizabeth, N. J. The text describes in an attractive way our best trees, shrubs, vines, and hardy plants, giving their blooming time and various uses. There is a beautiful title-page, and the half-tone pictures, specially engraved initials, and marginal thumb-nail sketches are all very fine. The cover is decorated with a white dogwood flower.

WHAT PEOPLE SAY.


Your MAGAZINE comes so near perfection and has given me so much pleasure, that I just want to give three cheers and a tiger for you. I like the MAGAZINE in its new form, I like the articles in it, and I like the colored plates. That one of *Cypripedium spectabile* in the December number was especially fine, and well worth the price of the MAGAZINE. Then, may blessings be upon your head for not scattering advertisements promiscuously through the MAGAZINE. Here's to you! May you live long and prosper!

Pardon me for taking your time but I had to say something.
Pierson, Ia. W. R. M.

Please find enclosed 50 cents for the renewal of my subscription for VICK'S ILLUSTRATED MAGAZINE, a very valuable and most welcome monthly visitor to my home. T. T. P.
Lake View, N. J.

I am pleased with the new numbers of the MAGAZINE. Am especially interested in wild flowers. R. L. M.
Norfolk, Mass.

The perusal of the April MAGAZINE indicates very clearly that you are reaching the top notch of general excellence. The variety of subjects large. Every article readable whether the interest in horticulture is practical or not, and the printing beautiful. It is a charming MAGAZINE. ELIAS A. LONG.
Formerly Conductor of "Popular Gardening."

A  on the wrapper of the MAGAZINE indicates that your subscription expires this month. Please renew promptly.

VICK'S VOLUNTEERS.

HEADQUARTERS VICK'S VOLUNTEERS, May, 1900.

Dear Volunteers:

In March we stated that it seemed a good idea to form companies among our young friends for Nature Study and field work. Our army is growing day by day, even as far as Japan, and we wish to announce that Illinois was the first State to form a company, that it numbers thirteen, and that Fanny Steven was chosen captain. We welcome the fact, that in our great protective army there is no distinction of sex.

Are all our Volunteers organizing? Are they getting all the recruits they can? Mrs. Moore will be glad to give any help she can; in order to insure a reply, send a self-addressed and stamped envelope.

Vick's Volunteers is a club organized among the readers (especially the young folks) of VICK'S MAGAZINE to sharpen the eyes and foster a love for the study and protection of our birds, our wild flowers, and all those gifts which Mother Earth lavishes upon us if we know where to seek them.



There are no dues. Our army is organized to awaken an interest among young people in what is going on about them, that their eyes may behold the treasures of nature. There is no money payment to be made, but simply a promise to write at least once during the year something of interest they have noticed in relation to animals, insects, birds, flowers, or plants. Not a composition upon some bird or insect, but a little statement of what you have noticed.

The questions of members will be carefully answered. If a personal answer is required, a self-addressed and stamped envelope should be enclosed. In fact we hope to make Vick's Volunteers an active, earnest organization, content in times of peace to learn how many unguessed forms of loveliness are all about us; or, at the call, make war upon the destroyers of our shade trees, our birds and our flowers. All communications on this subject should be addressed to

Vick's Volunteers, 30 Triangle Building, Rochester, N. Y.

In making application to join Vick's Volunteers please fill out and sign the blank at the bottom of this page, cut it out and send as above stated.

Application
for
Membership
in
Vick's
Volunteers.

PLEASE ENROLL my name on the list of Membership of
Vick's Volunteers

*I hereby promise to send, at least once during the coming year,
to Vick's Magazine something of interest that I have noticed in
relation to Flowers, Plants, Trees, Birds, Insects, or Animals.*

Name

Post Office

Street or P. O. Box..... State.....

Parents and Friends of Boys:

Please separate the coupons on reverse side of this sheet and hand to different boys.



Young Men's
Clubs

Young People's
Societies

Bicycle Clubs

School Classes
should take advantage of this offer.



Every
neighborhood
should have
an exhibition.

Our offer is
bona-fide.



4th of July, 1900, 4th of July

This is a splendid opportunity to help the boys in having the best 4th of their lives.

We are prepared to give away thousands of collections of **High-Grade Fire-works**, — not cheap goods, such as usually sold at the groceries.

Please hand these Coupons to the boys.

VICK'S MONTHLY MAGAZINE

29 Triangle Building

Rochester, New York



THESE Coupons are to be cut out
and given to the boys

Boys, we will make you happy if
you write a postal at once.

For 4th of July

Vick's Monthly Magazine,
29 Triangle Bldg., Rochester, N. Y.

Write at once for particulars and
lists of collections. It is necessary
to make our plans now

Fire Works

a collection of Fire Works, listed at
from \$15.00 to \$100.00 each. No
cash out of pocket. No hard work
to secure these

to accept

to write us a postal, giving name
and address (street and number, or
parents' name), for we want you

1000 Boys Wanted

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and address (street and number, or
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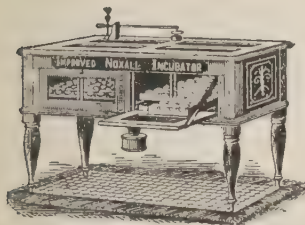
For 4th of July

Boys, we will make you happy if
you write a postal at once.

Vick's Monthly Magazine,
29 Triangle Bldg., Rochester, N. Y.

WHEN planning and planting their gardens, people will appreciate VICK'S MAGAZINE, which gives so many timely suggestions. This is a harvest time for the boy's to obtain subscriptions and the fireworks offered on page iii, Publishers' Department.

BEFORE YOU PURCHASE



be sure and see the
Noxall Incubator & Brooder,
they are backed by sworn testimonials, and are the Greatest Chicken Hatchers and Raisers on the market. Send 6 cts. for our 120th Century catalogue.
Noxall Incubator and Brooder Co.,
QUINCY, ILL., Box 23.

Seeds! Seeds!

76th Annual Priced Catalogue of
VEGETABLE, FARM AND FLOWER SEEDS
is now ready and mailed free to all applicants.
Bridgeman's Seed Warehouse,
37 East 19th St., New York City.

ANGORA CATS. Pure bred; send for circular.
WOODBINE CAT KENNELS, 2508 Catalpa St., Louisville, Ky.

CREAM SEPARATORS

De Laval "Alpha" and "Baby" Separators
First—Best—Cheapest. All Styles—Sizes.

Prices \$50.- to \$800.-

Save \$10- per cow per year. Send for Catalogue.

THE DE LAVAL SEPARATOR CO.
RANDOLPH AND CANAL STS. | 74 CORTLANDT STREET
CHICAGO | NEW YORK

Phonograph. One to each town FREE. No work.
Send 4c in stamps for particulars: Raymond,
Hall & Co., Des Moines, Iowa.



PARKER'S HAIR BALSAM

Cleanses and beautifies the hair.
Promotes a luxuriant growth.

Never fails to Restore Gray Hair to
its Youthful Color.

Cures scalp diseases and hair falling.
50c. and \$1.00 at Druggists.

In a biographical notice, an exchange makes
the following incontrovertible statement:

"Henry W. Lawrence was born in Illinois
when quite a small boy."

GINSENG We are Headquarters for Seed & Plants.

Valuable book about it, telling how to grow thousands of
dollars worth, what used for and who is growing it. Sent for 10c
AMERICAN GINSENG GARDENS, ROSE HILL, New York.

Harper's Bazar

a weekly magazine
for Women ❀ ❀ ❀

On May 5th Harper's Bazar
will appear in new shape as
a magazine ❀ ❀ ❀ ❀ ❀

New Editorial Management

New Policy ❀ ❀ ❀ ❀ ❀

and keeping step with the
progress of the age ❀ ❀ ❀

The first issue will contain articles from William
Dean Howells, Elizabeth Stuart Phelps Ward,
Edith M. Thomas, Pres. Jordan of Leland Stanford
University, Dorothy Ward, Frances Humphrey
Gaffney, Pres. of National Council of Women, etc.

During remainder of the year 1900 there will be published
the following serials and short stories: "Heroines of the
Nineteenth Century Fiction," by W. D. Howells; "Cora"
Stories, by Stephen Crane; "New England Tales," by
Mary E. Wilkins; "Child Stories," by E. Nesbit; etc.

Fashions for the Middle-aged; Fashions for Small Children,
etc. Ten Singing Lessons by Marchesi. "Woman
in Outdoor Sports," by J. Parmley Paret. Home Sewing
and Fancy Work. Home Making and Furnishing, etc.

The price of this new weekly magazine is \$4.00
per year, or as a special offer for introduction, \$2.00
from May 1, 1900, to Jan. 1, 1901. The publishers
claim it will be as strong, as brilliant, and as
"up to date" as brains and money can make it.

We will send this excellent Weekly Magazine, *Harper's Bazar*, from May
1, 1900, to January 1, 1901, and VICK'S ILLUSTRATED MAGAZINE one year for **\$1.85**

Vick Publishing Co. 30 Triangle Building **Rochester, N. Y.**

THE WING PIANO Style 29, Concert Grand Upright

The Style, Design, and Finish of Case of this Piano is more Elaborate and Elegant than that of any other piano made.

Description of Style 29.

7 $\frac{3}{4}$ octave.

Double lever, grand repeating action.

Grand scale, overstrung bass, three strings to each note in the middle and treble registers.

The scale is the same as in grand pianos, with the largest size of sound board and strings of greatest length, thus giving the greatest volume and power of tone.

CASE double veneered, inside and outside.

Choice of superior Circassian walnut, rich figured mahogany, genuine quartered oak, and ebonized.

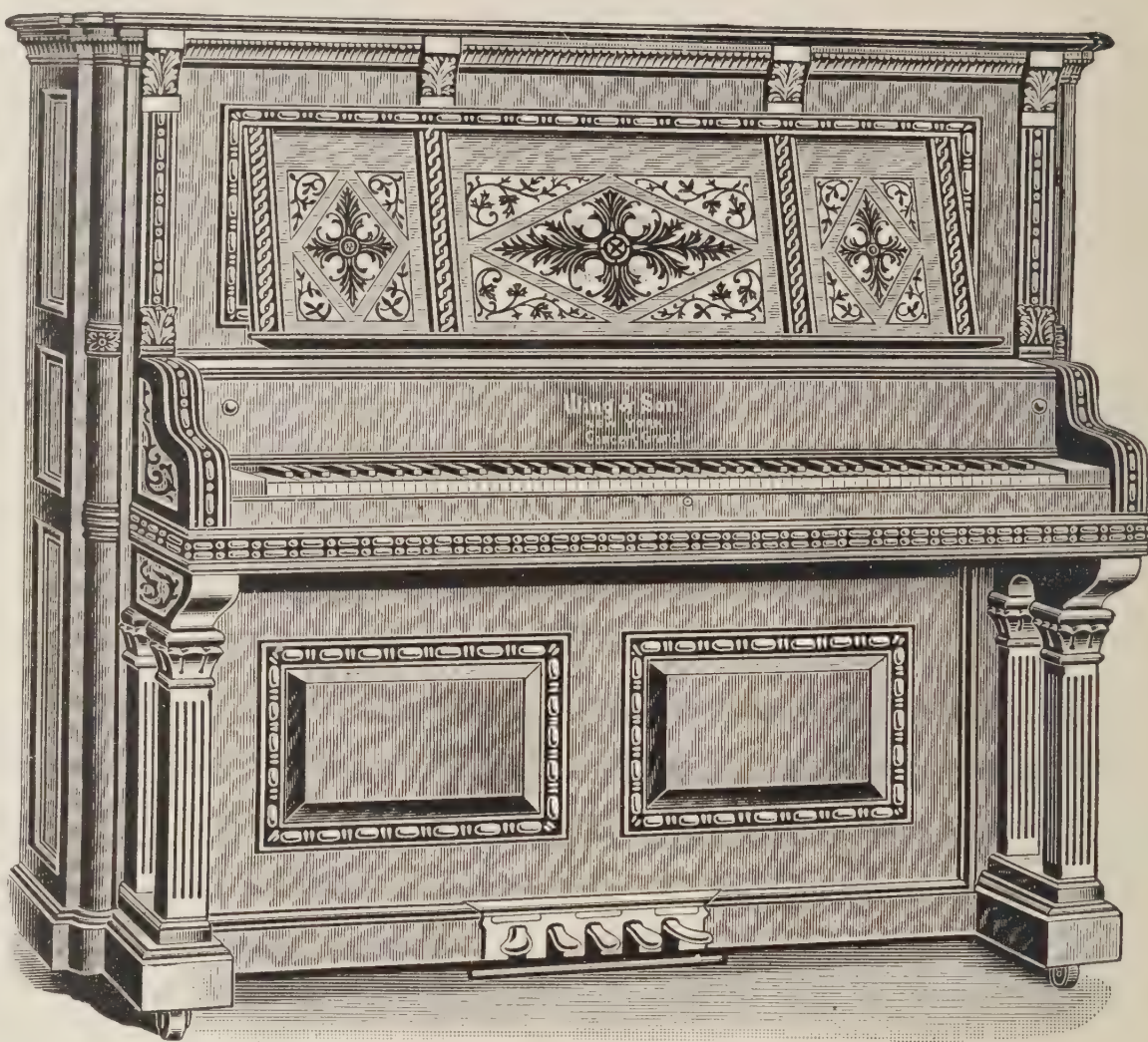
KEYS—Of best ivory and ebony.

Special Features and Improvements

Our special method of tone regulating (treating the hammers) insures great sweetness and singing quality of tone from the beginning and makes the tone more lasting. Our method of making the wrest plank of five thicknesses of hardest rock maple, and our extra heavy metal plate construction, give great solidity and strength, and cause the piano to stay in tune for a very long time.

The Wing Piano action is patterned after the perfected double lever, grand repeating action, to secure the greatest strength and power and greatest repeating qualities. Every note acts instantaneously and repeats perfectly, so that after a note is played the same note may be sounded again immediately without taking the finger from the key.

Wing Pianos have the following improvements, viz.: "Built up" wrest plank construction; "dovetail" top and bottom frame case construction; full metal plate, with metal depression bar and metal supports for key bed; improved noiseless direct-motion pedal action; improved practice attachment; full-length duet music desk; carved panels; instrumental attachment.



THE INSTRUMENTAL ATTACHMENT.

We desire to call special attention to this improvement. The instrumental attachment enables any ordinary player to imitate perfectly the tone of the mandolin, guitar, harp, zither, and banjo. Music written for these different instruments, with and without piano accompaniment, can be rendered just as acceptably by a single player on the piano as though played by a parlor orchestra.

PRICE We aim to make the best piano possible, and to sell it at the lowest price possible. Wing Pianos are not sold through agents. They can be bought in only one way—that is, direct from our factory. On account of the large number of pianos we sell our profits are small, and when you deal with us the difference between the actual cost of manufacture and the price you pay is very little. If you wish to buy a fine piano at a low price, write us.

Wing Pianos are made in five different styles at different prices, but all are uniform in quality. Every Wing Piano is guaranteed for twelve years against any defect in tone, action, workmanship, or material.

SENT ON TRIAL Freight Prepaid. We will send the above piano, or your choice of four other styles, to any part of the United State on trial (all freight paid by us), allow ample time for a thorough examination and trial in the home, and, if the instrument is in any particular unsatisfactory, we will take it back at our own expense. No conditions are attached to this trial. We ask for no advance payment, no deposit. We pay all freight in advance. Our object in offering these terms is to give every one an opportunity to examine the Wing Piano free of expense or risk.



Every Wing Piano is guaranteed for twelve (12) years against any defect in tone, action, workmanship or material. Everyone who intends to purchase a piano should have our complete catalogue. We send it free on request.

WING & SON,

Nos. 239-241 East 12th Street New York City.

1868—32nd Year—1900

RIPANS

Nervous dyspepsia will make life seem gloomy;
Bilious disorders will make you feel blue;
Raging sick headaches are quite as distressing;
Try Ripans Tabules—these ills they'll subdue.

WANTED.—A case of bad health that R·I·P·A·N·S· will not benefit. They banish pain and prolong life. One gives relief. Note the word R·I·P·A·N·S· on the package and accept no substitute. R·I·P·A·N·S·, 10 for 5 cents, may be had at any drug store. Ten samples and one thousand testimonials will be mailed to any address for 5 cents, forwarded to the Ripans Chemical Co., No. 10 Spruce St., New York.

"Whoop! this offer of fireworks is just fine!"
says a boy of our acquaintance.

A Butterfly Orchid Seeds of the Wonderful
Free; send 2-cent stamp Bird Flower Vine
for postage. for a dime.

DICKERSON & BELDEN, MIAMI, FLA.

FAT FOLKS REDUCED 15 to 25
pounds per month.
HARMLESS; no
starving; 22 years' experience. BOOK FREE. Address DR. SNYDER,
1319 Masonic Temple, Chicago, Ill.,
or Presby Building, New York.



"Oh, mamma, just see his handle bars!"

100 Piece Dinner Set **FREE.** No work, Send 4c
in stamps for particulars. Raymond, Hall & Co., Des Moines, Iowa.

FIRST PRIZE PHLOXES.

Descriptive Catalogue **FREE.**

REA BROTHERS, Norwood, Mass.

PLAN your route at once and set out to get subscribers to VICK'S MAGAZINE and the fireworks offered. See page iii, Publishers' Department.

WANTED WOMEN

to bind dress shields at home. Steady work; distance no disadvantage; ask your dealer to show you Kora Shields and Kora Klasp Hose Supporters. Kora Shields snap on waist without sewing. Send 10c. for catalogue of work. The Kora Shield Co., Dept. B, 525 Broome Street, N. Y.

Good Housekeeping

Interesting articles on subjects pertaining to the home.
Timely suggestions. Original recipes. Prize Anagrams, etc.
Send for sample copy (mentioning *Vick's Magazine*).

GOOD HOUSEKEEPING, SPRINGFIELD, MASS.

A Help
for every
Home



No. 3034 Buggy. Price \$38.30
with leather quarter top.

Deal with the Makers

When you buy a carriage, buggy or harness. Choose from the biggest stock and fullest assortment, and pay only the cost of making, with but one moderate profit added. Our plan of selling direct from the factory insures satisfaction—your money back if you're dissatisfied with your purchase—and enables you to

save the dealer's profit.

Our complete illustrated catalogue, showing many styles of high grade vehicles, harness, robes, blankets and horse equipments, with detailed descriptions of each, mailed free. Write for it and learn how cheaply you can buy when the jobber's and dealer's profits are cut off.

THE COLUMBUS CARRIAGE AND HARNESS CO., Columbus, O.



No. 240 Single Strap
Buggy Harness. Price \$8.15.

THE Dwarf Brilliant Rose Petunia is very pretty. It is of a reddish pink color, not magenta, like most petunias. Planted in masses at Highland Park, in this city, last summer, it was very effective and attractive.

FREE




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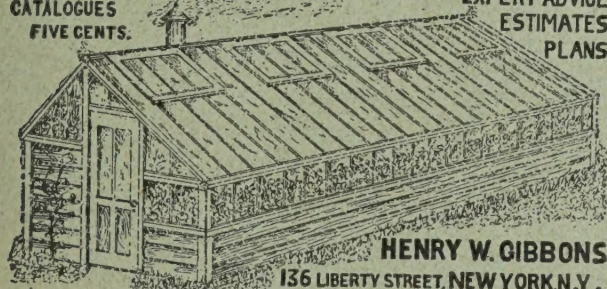
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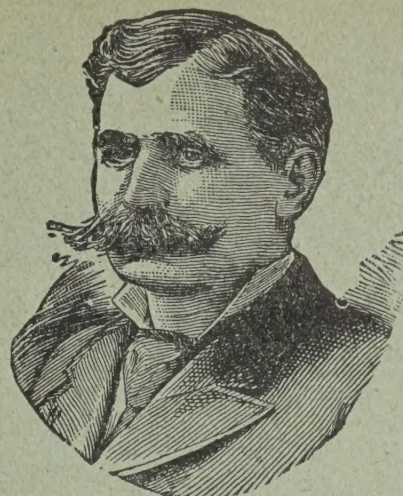
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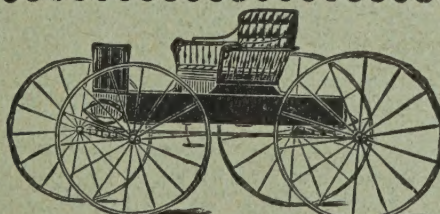
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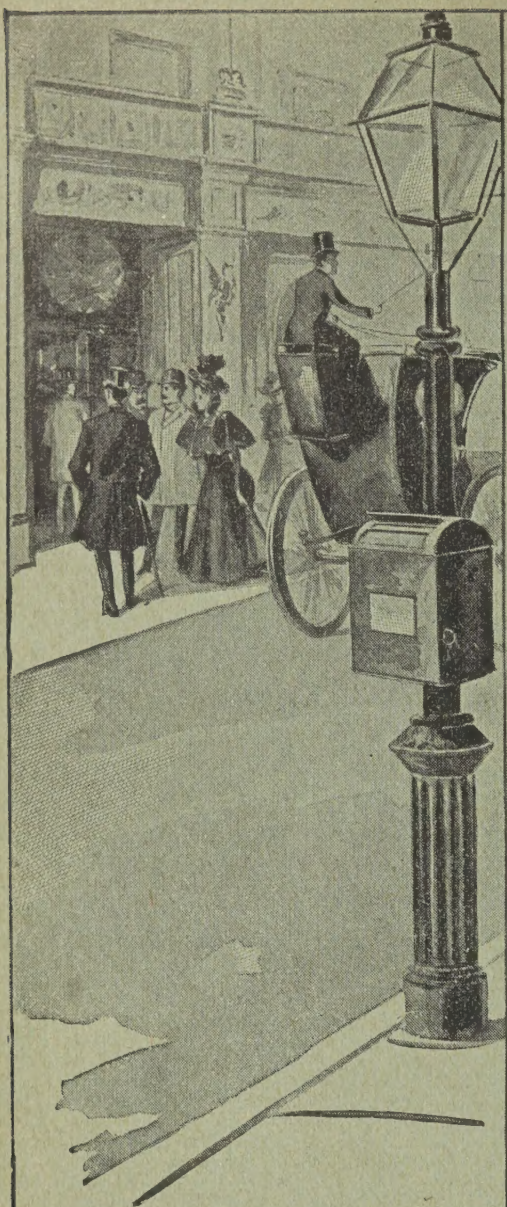
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